

THE
ARCHITECT
& BUILDING NEWS

4 MARCH 1954

VOL. 205

No. 9

ONE SHILLING WEEKLY

- L.T.E. GARAGE, LOUGHTON
- SHOWROOM FOR FEDERATED FOUNDRIES
- INFORMATION DIGEST

The BRITANNIC *Floor Spring*

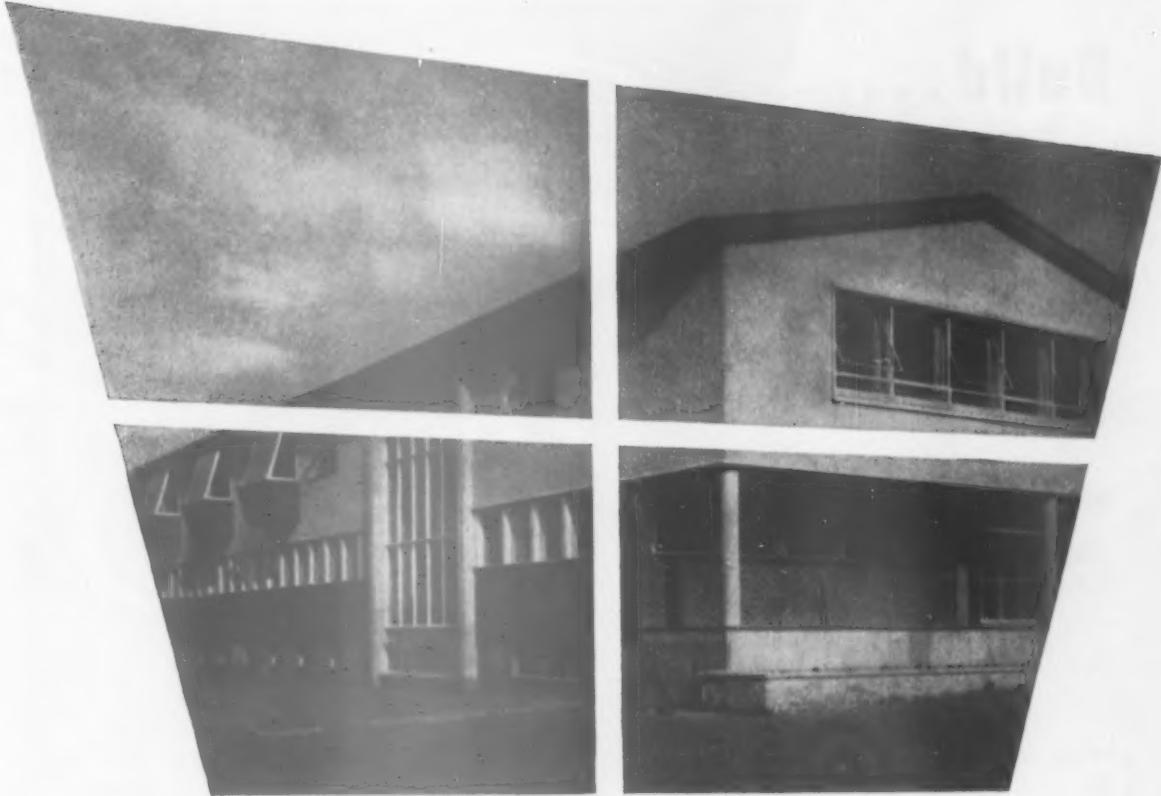


No 444

*Makers of Floor
Springs in 10 Reigns*



WILLIAM NEWMAN & SONS Ltd.
HOSPITAL STREET, BIRMINGHAM 19. *Established over 200 years*



Williams & Williams did the windows

. . . in the remarkable Sighthill Health Centre, Edinburgh (Designers : Architects of the Dept. of Health for Scotland. Lately Chief Architect R. Gardner-Medwin, B. Arch., F.R.I.B.A., M.T.P.I., F.R.I.A.S.) Among the interesting window designs are the double glazed bay windows. (Left centre in the illustration.) There is a dentist's chair in each bay and the windows give almost all-round daylight while keeping out the cold. In another recent contract, Montrose House, in Glasgow (Senior Architect : Stewart Sim, D.A. Edin., F.R.I.A.S., F.S.A. Scotland.) 19,000 sq. ft. of external metal windows were supplied and fixed by Williams & Williams.

M E T A L W I N D O W S

WILLIAMS & WILLIAMS

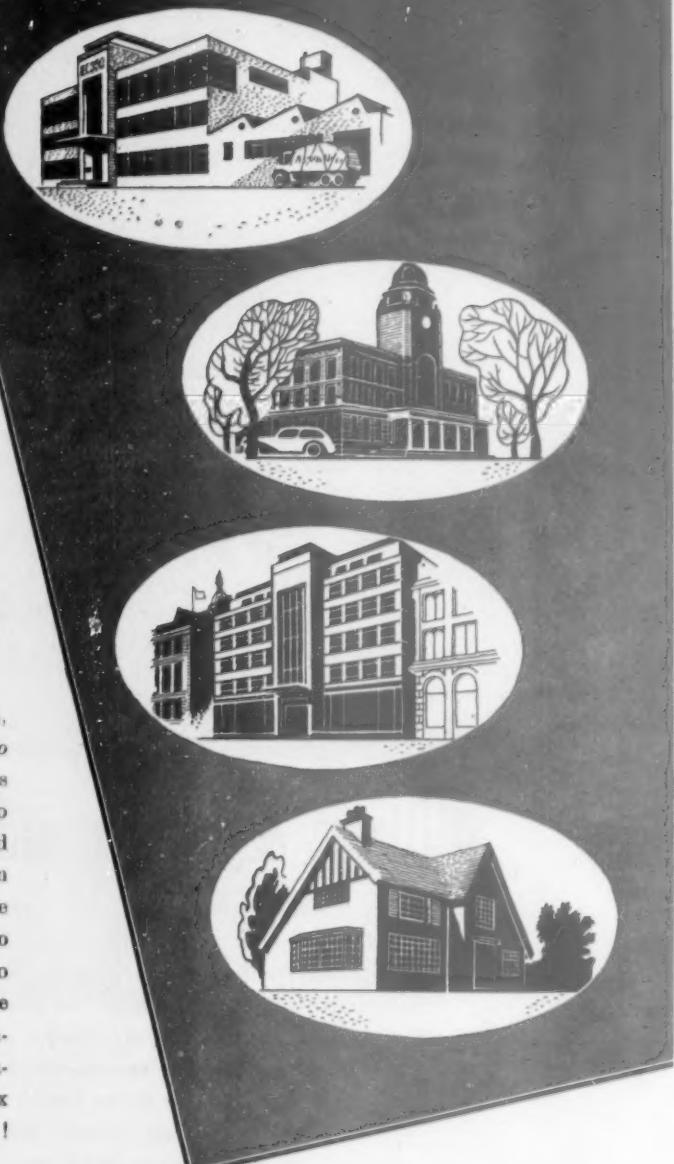


DO YOU KNOW YOUR NEAREST AREA OFFICE ? You'll find Williams and Williams in London, South London, Belfast, Birmingham, Bristol, Cardiff, Glasgow, Leeds, Liverpool, Manchester, Newcastle-upon-Tyne, Newmarket, Nottingham, Reading, Sheffield, Southampton and Tunbridge Wells. Each office arranges quick delivery of metal windows, gives estimates, details, and fixing teams on site. Head Office: Reliance Works, Chester.

Members of the Metal Window Manufacturers' Association

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and save
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HIGHLIGHT FINISH**

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CELOTEX

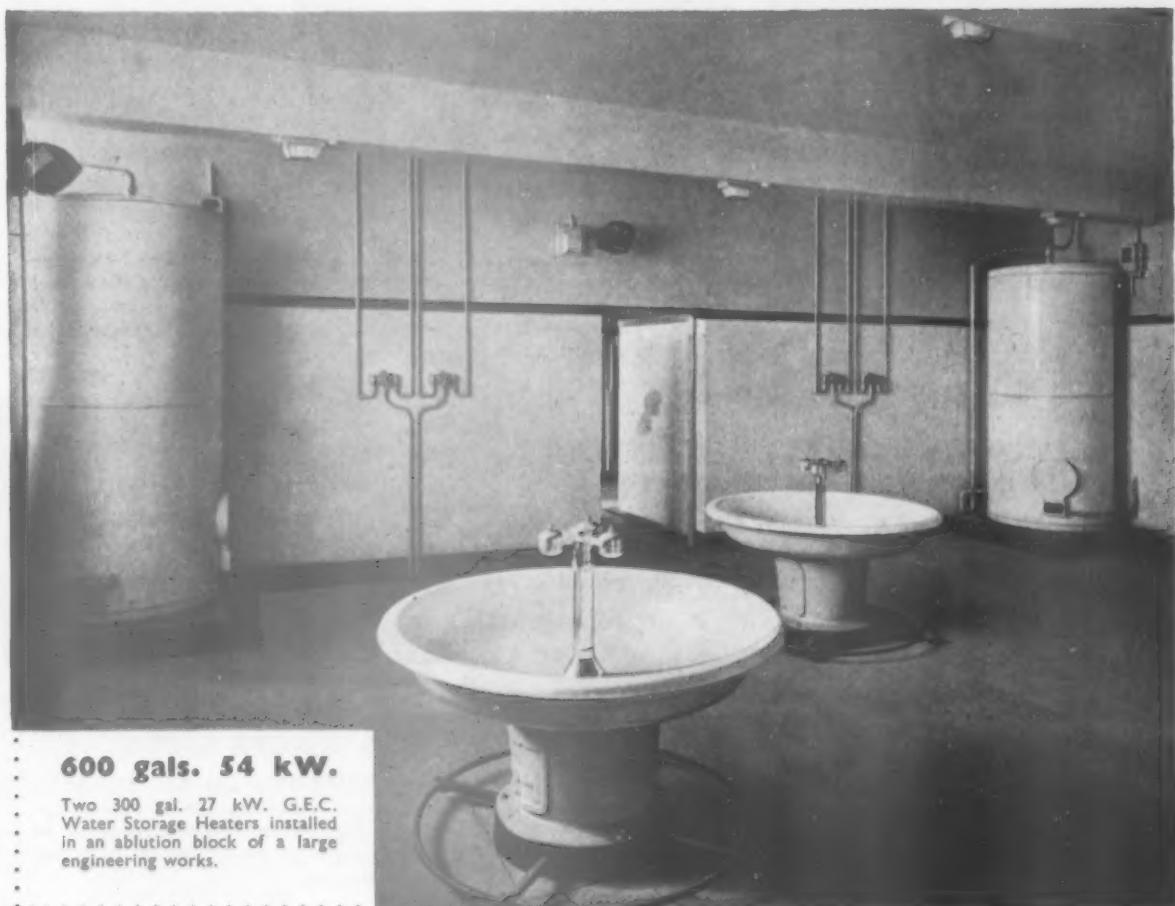
Technical advice, sample, prices
and further details are freely available on request.

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FOR EFFICIENCY AND RELIABILITY



600 gals. 54 kW.

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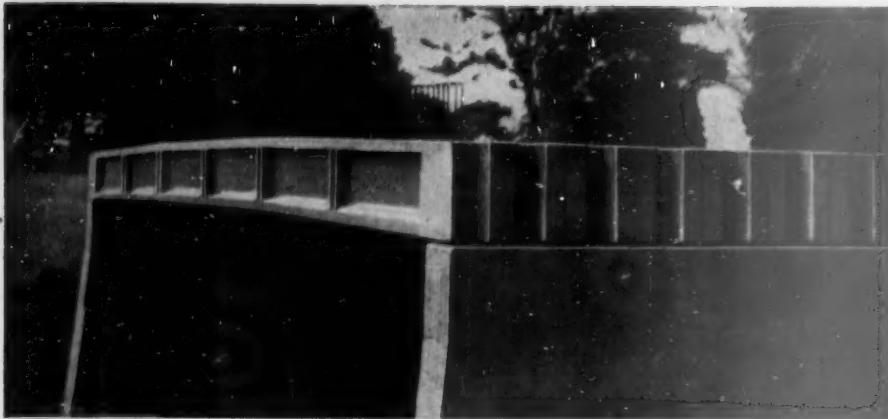
Whatever the quantity of hot water required, however complicated the system, you'll find G.E.C. has just the right equipment to solve the problem. Cleaner, economical and thoroughly

reliable, G.E.C. Water Heaters are ideal for supplying hot water for process or ablution purposes. Consult G.E.C. on all your water heating problems.

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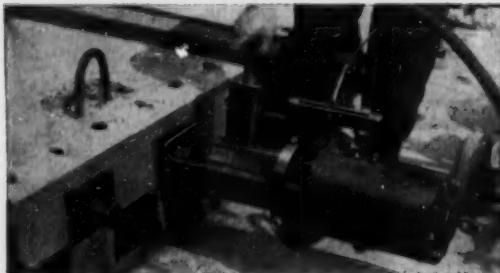
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THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON W.C.2



1100 ft. Prestressed Concrete Culvert for the Lee Conservancy Board. Engineer : Marshall Nixon, M.B.E., T.D., B.Sc., A.M.I.C.E., A.M.I.Mech.E.

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To B.S. 1221-1945, Part A. Working Stress of 27,000 p.s.i. Economical for all types of concrete construction. Hard drawn, high-tensile steel wire mesh, electrically welded at every intersection.



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The stress of 27,000 p.s.i. complies with C.P. 114, but in certain circumstances these stresses may be increased to 30,000 p.s.i. If due care is taken in the design.

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it's the look that gets 'em!

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COPPER 'KUTERLON' TUBING

for radiant panel heating



Over 600 tons of I.C.I. copper tubes were used by Messrs. Rosser & Russell for panel heating installations in the Bank of England.

(PHOTO: COURTESY BANK OF ENGLAND)

'Kuterlon' soft temper copper tubing, strong and corrosion-resistant, meets all the requirements of a reliable and efficient panel heating system. Manufactured to B.S. 1386:1947 in coil lengths of 30, 45 and 60ft., (longer by arrangement), all

'Kuterlon' tubing is hydraulically tested before despatch to 1,000 lb. per square inch.

I.C.I. copper tubes, used in the first copper radiant-panel systems in the world, continue to be specified for many important installations.

IMPERIAL CHEMICAL INDUSTRIES LIMITED, LONDON, S.W.1



M.295



S. Vincent Goodman Esq., County Architect.
Bedfordshire County Council.

BIGGLESWADE SCHOOL

Siegwart pre-cast floors were used in this school and deliveries were carefully planned to synchronize with building operations.

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S/1/54

are you

PUTTING COLOUR TO WORK ?

These days each colour can do a specific and important job of work. Bright colours in a factory at all danger points, for instance; and colour tie-ups in kindergartens on the *your-cloakroom-your-classroom* principle. Colour is busy helping, soothing, guiding and classifying in hospitals and offices, too.

To make this comparatively recent colour trend easier to handle,

Dockers' have produced 47 colours taken from the Munsell range. The colours are all made up from nine basic tints plus black and white. Dockers' believe this simplification will greatly assist the architect in planning new colour schemes.

Write for Dockers' free booklet today

Dockers' illustrated booklet "Colour With a Purpose" gives examples of how colour can be usefully employed in factories, schools, hospitals and offices.

DOCKERS' PAINTS

*Makers of Paints
Lacquers and Varnishes
for every purpose.*



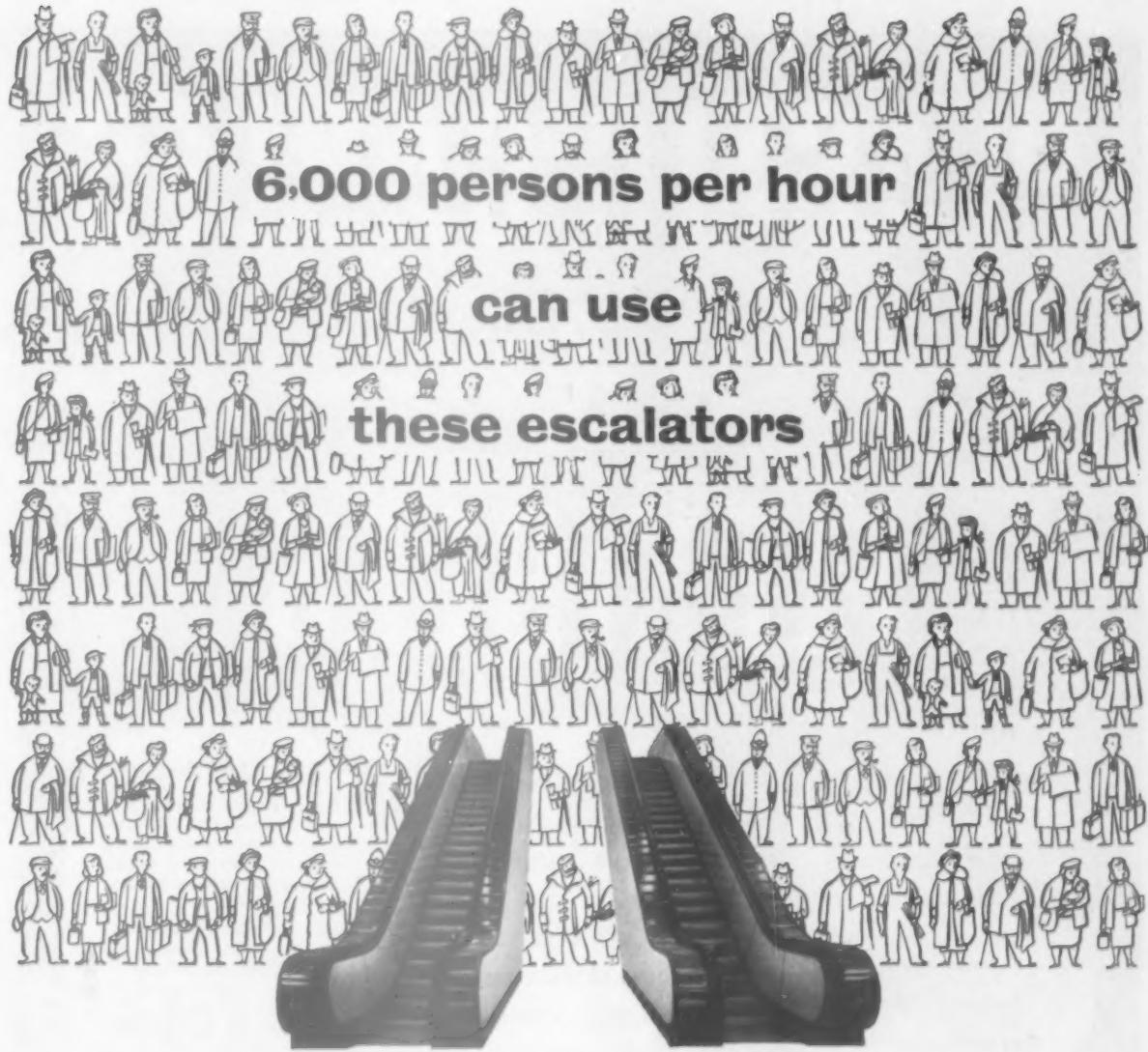
DOCKER BROTHERS

LADYWOOD, BIRMINGHAM, 16

London Showrooms:

17 Berners Street, W.1





J. & E. Hall have recently completed and installed six of the latest type escalators for operation in the new stores of Messrs. John Walsh Ltd. of Sheffield. These escalators give continuous, silent, rapid transportation of shoppers from one department to another, thereby alleviating congestion especially on the ground floor.

Many modern improvements and innovations are incorporated in the design of these escalators, for instance, the treads are of the very latest closed

slat design which completely eliminates the possibility of passengers' heels or umbrellas getting caught up, a common occurrence on the old wide slat type of escalator.

The escalators are attractively finished in pink "Wareite" panelling with polished mahogany mouldings and decking panels. The panelling between the escalators is of sycamore with mahogany cross banding.

Architects: Messrs. J. W. Beaumont & Son, F.R.I.B.A.

J. & E. HALL
LIMITED
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AND ARE AVAILABLE
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300 BRANCHES IN
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CLII

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Almost any surface—wood, brick, metal, concrete or plaster—will take Synthaprufe; and with its unique ability to stick firmly, to remain flexible and to resist moisture, Synthaprufe

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SYNTHAPRUFÉ contains rubber



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TIMBER STORAGE BUILDING AT HULL

Design & Fabrication of Structural timber-work by :—
BOLTWOOD ENGINEERING LTD., CHESTERFIELD.

Architects :—
GELDER & KITCHEN, F.L.R.I.B.A., HULL.

Main Contractors :—
HOULTON & GRANT LTD., HULL.

Illustration by courtesy of :—
HORSLEY, SMITH & CO. LTD., HULL.



"CORONATION SHED" at Victoria Dock, Hull, erected for Horsley, Smith & Co. Ltd.
Illustration shows timber framework in course of erection.

This fine timber-framed storage building is 440 ft. long by 163 ft. wide, with 25 ft. clear minimum working height. A triple centre rail track under cover serves 16 stacking bays each approximately 60 ft. by 55 ft. Valley gutters have been eliminated in the design and there are only 14 internal columns. THE LATEST TECHNIQUES IN TIMBER JOINTING AND STRUCTURAL DESIGN HAVE BEEN EMPLOYED THIS BEING MADE POSSIBLE BY THE INCLUSION OF THE FOLLOWING TIMBER CONNECTORS:—

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DOUBLE BEVELLED SPLIT-RING
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HEAVY DUTY SHEAR PLATES

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SIMPLIFIES FABRICATION

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If you are interested in designing timber structures on an engineering basis, using this timber connector technique, apply for a FREE copy of "DESIGN MANUAL FOR TIMBER CONNECTOR CONSTRUCTION."

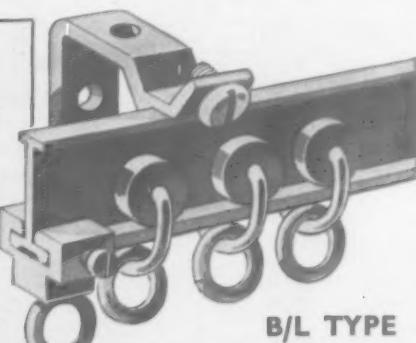
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the specification of**

'Rufflette'

BRAND

CURTAIN RUNWAY SYSTEMS

'Rufflette' Brand Runways, either corded or non-corded, are being increasingly used as landlord's fixtures in many new building schemes. Full details will be supplied on request.

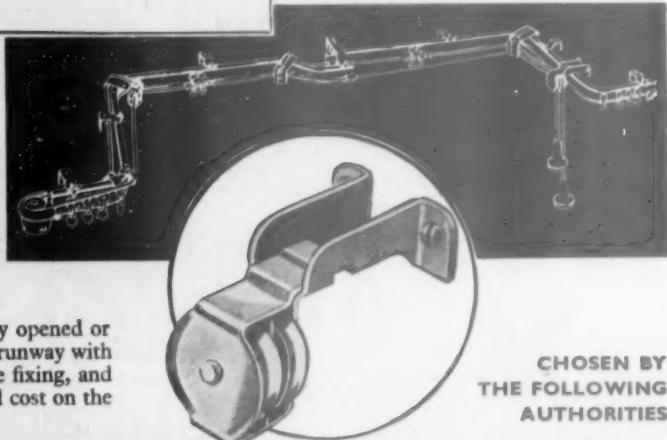


B/L TYPE

This is a strong corded or non-corded 'Rufflette' runway for all general purposes. Also available in plastic.

FOR BAY WINDOWS

'Rufflette' Brand Curtain Runways have been developed for every curtain suspension need. Shown on the right is the new cord-controlled 'Rufflette' runway for fitting to bay windows.



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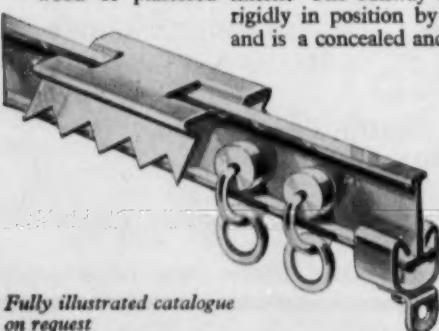
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ESSEX COUNTY COUNCIL
SCHOOLS

WAR OFFICE (MARRIED QUARTERS)
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HOSPITAL MANAGEMENTS COMMITTEE

* Note the curved travelling section which enables curtains to be overlapped without cutting rail.

OR AS A BUILT-IN INTEGRAL UNIT

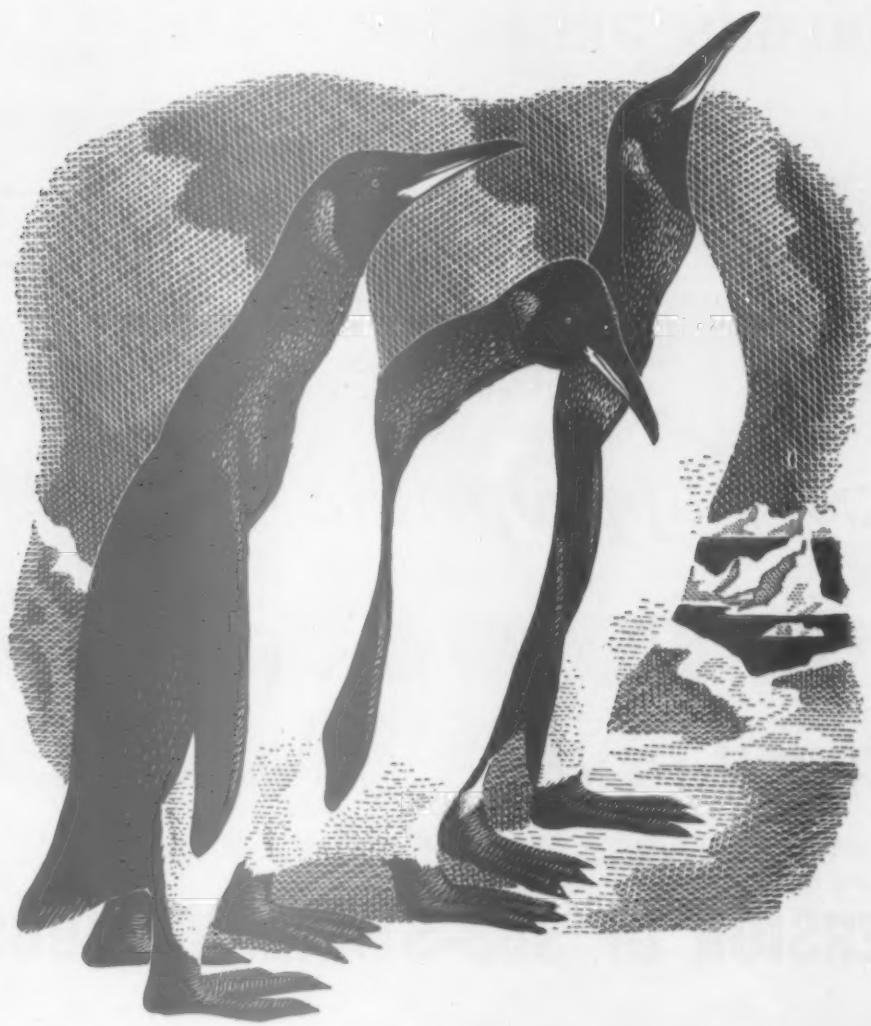
'Rufflette' Brand Recessed Curtain Runway is a permanent and integral part of building construction. It is inexpensive and can be fitted into wood or plastered lintels. The runway is held rigidly in position by a patent spring clip without screws and is a concealed and permanent fitting.



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S.14

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*because it is flexible,
is a very appropriate
material for
pipework in the*



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LEAD LASTS

The Council's Technical Information Bureau will gladly help with problems on the use of Lead Sheet and Pipe in building work. Details of the main uses are given in a series of Information Sheets and Bulletins, which can be obtained by applying to the Council.

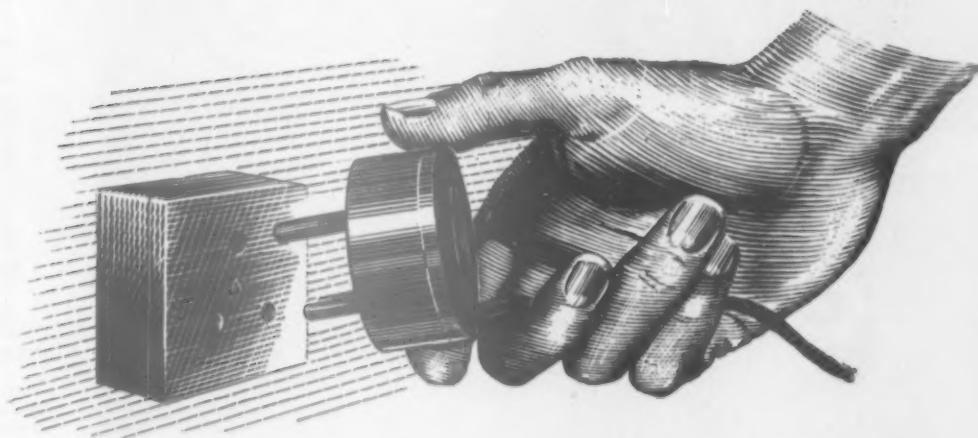
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LEAD INDUSTRIES DEVELOPMENT COUNCIL, EAGLE HOUSE, JERMYN STREET, LONDON, S.W.1

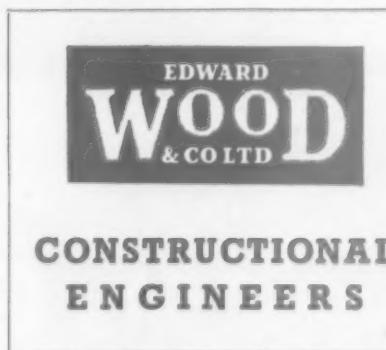
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This photograph appears by courtesy of The British Electricity Authority, N.W. Division

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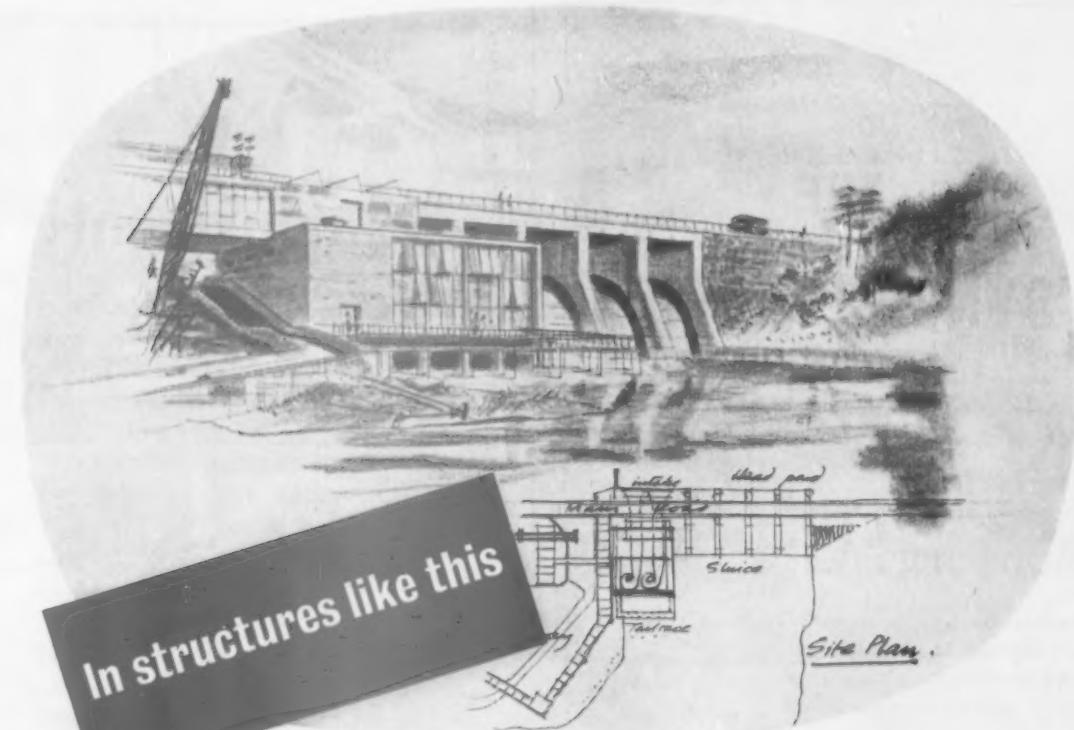
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EXPANDITE RUBBER WATERSTOPS give superior performance and longer life compared with steel and copper. They accommodate greater joint movement and are designed to give the most effective seal against water pressure.

P.V.C. WATERSTOPS are used where little movement is anticipated. They combine mechanical strength, flexibility, chemical inertness and resistance to ageing.

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Inclined or Vertical Joints. Expandite Vertical Sealer—a bituminous waterproof compound, adheres tenaciously to concrete, accommodates movement and will not slump at high temperatures.

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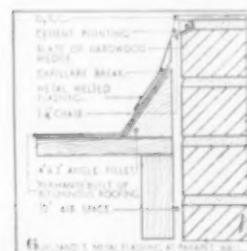
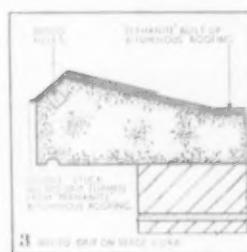
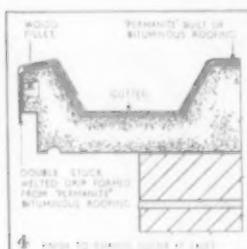
BRITAIN's demand for electricity is greater than it has ever been; more factories and farms, more homes and offices are all using more—and they will require still more electricity in order to raise output and increase our standard of living.

To meet these needs, 40 new power stations have been brought into operation since British Electricity was established and the amount of power available has been increased by 50 per cent. But generating plant, which could work to capacity all day and night is *in fact* only required to give full output for short periods once or twice during the day.

If electricity were more widely used by factories, farms, shops, homes, offices and for street lighting—this would keep the generating plant more fully loaded. The demands on the power stations coming from these different classes of consumers would be diversified. That is to say the loads would not occur simultaneously but, in the main, at different times of the day—and continuous full output from the generating plant would reduce the cost of electricity.

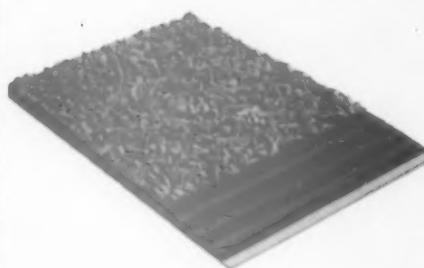


**ELECTRICITY
 PROSPERITY**



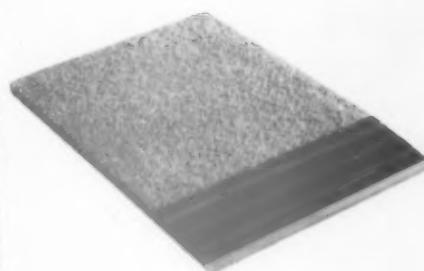
FLEXIBLE FLAT ROOFINGS

Our skilled craftsmen are long experienced in the laying of "Permanite" Built-up Roofing Systems—three of which are illustrated below. A Technical Staff is always available for Advice and Estimates. They will be only too pleased to discuss and suggest various details such as eaves, verge and flashing treatments shown here.



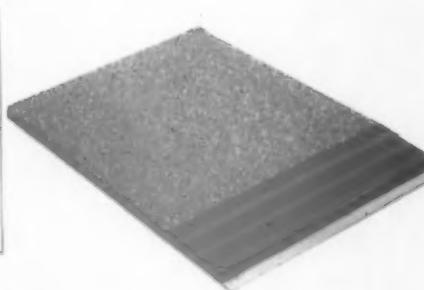
SPECIFICATION

2 or 3 layers of "Permanite" Bituminous Felt, bonded with hot bitumen and finished with a surface dressing of granite chippings.



SPECIFICATION

2 or 3 layers of "Permanite" Bituminous Felt, bonded with hot bitumen and finished with a surface dressing of heat-reflecting white chippings.



SPECIFICATION

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THE
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& BUILDING NEWS

The "Architect and Building News" incorporates the "Architect," founded in 1869, and the "Building News," founded in 1854. The annual subscription, inland and overseas, is £2 15s. Od. post paid : U.S.A. and Canada \$9.00.

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HOUSES—THE NEXT PHASE

NOW that conditions have been made easier in a legal sense for private speculative house building we are brought closer to economic difficulties.

Builders appear to have found prospective clients holding back on account of the high costs, and a cry has gone up in some areas that the Government should subsidize house purchase to stimulate the demand for new houses. A recent article in *The Financial Times* says that the demand for land has been increasing generally in recent months as a result of the improved facilities for obtaining private building licences and that prices in the main have been on the upgrade, but "it would probably be right to say, however, that the percentage increase compared with 1939 is no higher than that of existing house prices."

The greatest demand, says the article, seems to be for lots of from 5-30 acres if available for immediate building, at an average price of £2,000 an acre for land around London and the Home Counties and in the vicinity of large towns. "Sites both large and small are changing hands quickly in Bucks, Middlesex, Kent and Sussex, and the demand is greater than the supply. Assuming would-be house owners have budgeted for the most they can afford, it follows that the more they pay for land, the less will be available for the house itself, and although every effort must be made to bring down building costs by improved organization and increased labour output it would be a very bad thing if a rising spiral of prices starved house-building of the money required for the high standards that we expect today. The economic cost ratio between land and building should be made clear to the public if they want well-built and equipped houses with low maintenance costs. Subsidies should be the very last resort, and if they are necessary—and there is as far as we know no reason to think that the Building Societies will not be able to cope with the problem—the public should know

who actually benefits from the subsidies and into whose pockets the money will go. The post-war period has been principally concerned with local authority housing under the control of M.O.H. & L.G. and great efforts have been made to ensure good design and site layout. Ministry officials whose names have not been mentioned when Housing Medal Awards have been made, have nevertheless deserved great credit for their work as back-room boys, giving advice and vetting designs. Now that the turn has come for the private house-builders the onus of maintaining these improved standards will rest presumably with local authorities and their planning officers.

So far the qualified architect who has tried to get modern (or contemporary if you like) houses put up has been the principal sufferer from the powers of local authorities to control design. Will they be as severe on the private builders when they submit bogus Tudor or illiterate Moderne designs? In this connection it is hoped that the words Mr. Stanley C. Ramsey, Deputy Chairman of the Abbey National Building Society, had to say at their Annual General Meeting will have effect. "If it were wise to do away with that part of the Town and Country Planning Act, 1947, relating to development charges, it was no less wise to retain the system of controls. We have had since the war so much in the way of control, that to many the word has become anathema. However . . . 'the proof of the pudding is in the eating,' and there is no question . . . that these post-war houses compare more than favourably with those built between the two world wars. . . . Building Societies cannot be indifferent to housing standards as, all things being equal, the better the house the better the security." Mr. Ramsey quoted Sir William Holford on "speculation," and this quotation will do excellently to finish the leader.

"The speculative element in the designer's work [in the eighteenth century], as well as in his patron's

outlay, was not regarded as reprehensible ; and civic authority more often than not supported private enterprise and created the conditions of good architecture. . . . Now in the middle of the twentieth century we have to work out, after two world wars and many revolutions, some new ways of linking private and public initiative within the self-discipline which a true democracy acknowledges."



The Villa Molin on the Bataglia canal. Designed by Scamozzi in the Palladian style in 1596.

EVENTS AND COMMENTS

Abner's military duties have prevented him writing his usual column this week. He will be back next week as usual.

VENETIAN VILLAS

The exhibition of photographs of Venetian villas which was opened last week at the R.I.B.A. by H.E. the Italian Ambassador is indeed a feast for the eyes. How understandable the enthusiasm that our ancestors had for this sort of thing becomes. This was a glorious period of architecture, sculpture and landscaping, which established the long reign of the country house that the genius of Palladio had conjured up from its forgotten Roman origins. Professor Wittkower, in an article in *Country Life* of February 25 considers Palladio "the greatest single power in the history of architecture during the last

THE ARCHITECT and Building News, 4 March 1954

500 years." I recommend reading the article; it adds greatly to the interest of seeing the exhibition.

The photographs are not by any means of equal quality, but the best are superb. The exhibition has already been shown at Treviso, Milan and Rome, and will go on tour after the London showing to Aberdeen, Newcastle, Liverpool, Southampton and Eton. Possibly also to Glasgow, Edinburgh and Plymouth. It is not to be missed, and the R.I.B.A. is to be congratulated on obtaining the exhibition and for putting it up so well in the short time available.

The Italians are faced with the problem of preventing these lovely villas from decay as we are with so many of our own noble country mansions. A society has been formed in Italy, modelled on our Georgian Group, to preserve and find a use for them before it is too late. The exhibition we are now privileged to see was prepared to arouse interest in and support for this cause. The photo on this page is of the Villa Molin near Padua, which was visited and studied by Inigo Jones. Although not by Palladio himself, but by Scamozzi, it has a character that one can only call "English," it is so sympathetic to our eyes. Thank goodness our own Palladian Chiswick House, the neglect of which we drew attention to after the war, is now being restored.

One of the most exciting photographs is the aerial view of the Villa Manin at Passariano, a magnificent example of buildings in a landscape.

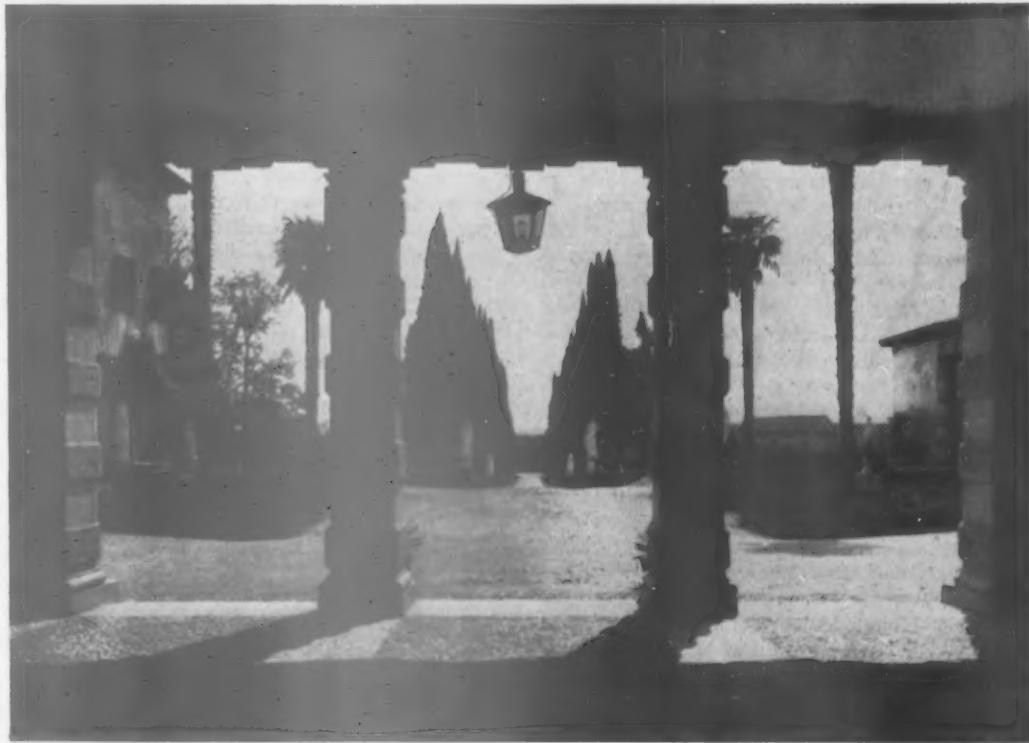
COVENTRY, TO BE OR NOT TO BE

The Bishop of Coventry has broadcast, Mr. Basil Spence has written to *The Times*, and the Coventry Cathedral Reconstruction Committee's application for a licence to build has been received at the Regional Office of M.O.W. in Birmingham. Now it is up to Sir David Eccles. The opposition of the Coventry City Council is even harder to understand when it was known that all contracts have been given out, stone is being quarried at Lichfield, and for the last two-and-a-half years preliminaries have been going on. The programme allowed for the building contractor to take over the site next December, and for foundations to be started in July of 1955, and apart from the concrete and reinforcement for these, no materials would be required for the next 12 or 18 months. My guess is that Sir David will grant a licence.

LITTER IN ROYAL PARKS

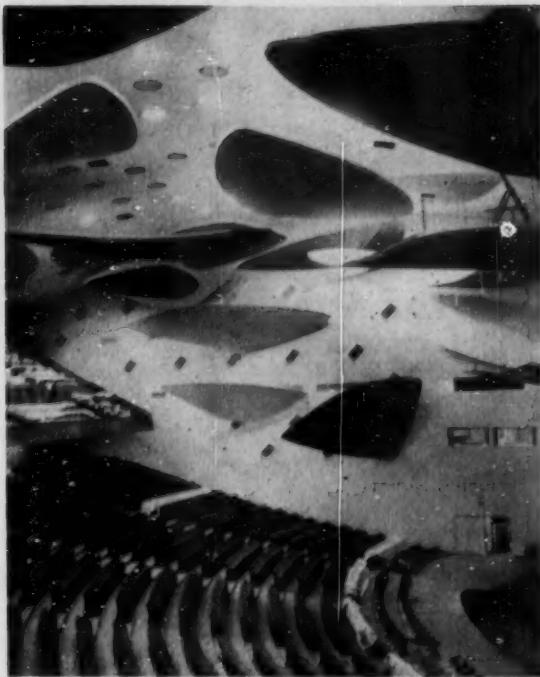
The Committee on Litter in the Royal Parks, which held its first meeting on February 24, invites ideas and suggestions "from persons and organizations interested in the litter problem as it affects the Central Royal Parks in London." If you have any ideas address them to the Secretary, Committee on Litter in the Royal Parks, Ministry of Works, Lambeth Bridge House, London, S.E.1.

I have often felt rage at seeing people in parks throw down cigarette packets or sweet wrappings, but have not had the self-possession to speak to them. I suggest that a fixed formula is agreed that can be used by everyone as a recognized rebuke and which will obviate the difficulty of thinking of a telling phrase on the spur of the moment. What would Dr. Johnson have said to a family leaving an empty bottle, a newspaper and an ice-cream carton on the grass in Kew Gardens? That might be it.



PHOTOGRAPHS OF VENETIAN VILLAS AT THE R.I.B.A.

Two villas in the province of Verona. Top picture : Villa Marogna, now Romani. 16th Cent., attributed to Sanmichele or his School. Bottom picture : Villa Monge, formerly Salbante. View of the cypress avenue from the entrance. 17th Cent.



The main auditorium of the new "University City" in Caracas, Venezuela, where delegates to the 10th Inter-American Conference met this week. The floating shapes are baffles to improve the acoustics. The auditorium seats 3,000.

NATIONAL TRUST APPEAL

The N.T. is appealing to its members for 18th and 19th Century leather-bound books to furnish the bookshelves of the houses it is responsible for. Thousands of such books must have found their way to second-hand dealers' barrows and book-shops. It is curious that they should have a future. How beautiful shelves of really well-bound books can make a room look can be seen in the long gallery of Sion House, and there is no question that a good response to the N.T. appeal will be a great asset. Montacute is one of the houses for which books are needed.

FROZEN MUSIC

The London Correspondent of *The Manchester Guardian* asked in a recent column which was the ugliest London building, and cited Lord Asquith of Bishopstone's remark that the Law Courts Building is "the most hideous building in the whole Kingdom." An opinion few architects, if any, would agree with. The M.G. correspondent went on to line up some of his own aversions against the wall and opened fire. The Prudential Assurance Building in Holborn he suggested as a warm favourite for most people: others who detested "modern megalithic monsters in Portland" stone would place their bets on London University (!), "the whole of Regent Street or the headquarters of Shell-Mex" (getting warmer). "The exterior at least of the Festival Hall is another likely candidate, and an old one would certainly

be the Albert Hall." Even the P.R.I.B.A. is not spared. "One wonders whether Lord Asquith has seen the Metropolitan Water Board's building in Finsbury which is built to look like an ancient castle, or if he took into account Olympia, Westminster Cathedral, The Imperial Hotel in Southampton Row, London Bridge Station and the Odeon Cinema in Leicester Square." A most disconcerting selection. Perhaps it would be better not to educate the public taste in architecture, but quietly to go on putting up large buildings and hope no one will notice.

ARCHITECTURAL JOURNALISM

The evening organized by the A.A. Students' Committee last week enabled readers and ex-readers of the journals to speak their minds in the presence of a representative number of architectural editors and journalists. The three principal speakers, Mr. John Smith, architect and critical consumer, Mr. Eric Bird, dean of architectural editors, Mr. Nigel Gosling, of *The Observer*, and Mr. Banham, of *The Architectural Review*, covered a wide field between them. We were all anxious to hear Mr. Gosling, as *The Observer* has made a notable feature of architectural criticism in recent years. Mr. Gosling touched on some of the reasons why the national Press are a bit shy of this subject. "To most people . . . Architecture is an Act of God that has to be endured but in which they are not greatly interested." Architectural critics, he said, have not invented the same kind of shorthand as most other critics. "When someone talks about an impressionist picture, it conveys a whole idea of period and style which is summed up in that one word."

Mr. Gosling also gave one of the objections to architectural illustrations. "You chaps will always use so many straight lines. A newspaper is divided up into vertical columns with an occasional few horizontals. The hope is that the illustrations will jolly up the page . . . if you merely impose a series of rectangles it looks a good deal worse. If any of you can think up some circular or spherical or other shaped building we shall be delighted."

Mr. Bird, for the defence, was admirable. "Please remember," he said, "that it is cost, not lack of enterprise or imagination, which is responsible for our failing to meet all requests. We would all like to print in colour on superfine paper, provide a wide range of information services and illustrate the outstanding buildings of foreign countries. We do our best within our limited means." On these occasions it is always hoped that there will be fireworks and Sir Hugh Casson was rather disappointed that criticism had not been sharper or livelier. But what was far more sinister, several students declared emotionally that they had given up reading *all* the journals, either in order to think or because the journals have failed in their duty to architecture (to define, analyse and lead modern architectural fashions). On this depressing note, the evening ended.

POTTERY BY STEVEN SYKES

This exhibition, which is at the Hanover Gallery until Saturday, is delightful. This artist obviously enjoys himself in the spirit of Mexican potters, his work is gay, inventive and witty and he is a fine colourist. The flower vases are just right for contemporary work and I thought his odalisques very fetching.

N. M.



Mural decoration in the Recreation Room of Loughton Garage, "By the River," by Marek Zulawski, which was in the 1951 South Bank Exhibition.

NEWS OF THE WEEK

Slum Clearance

Mr. Ernest Marples said at Wallacey at the week-end that the Government were devising "revolutionary methods of demolishing and reconstructing slum areas" by technique used in the aeroplane and shipbuilding industries in which design was married to construction and not divorced from it as it was at present in the building trade. Contractors and architects were co-operating to the full, and Mr. Marples said he was confident that the new approach would lead to economical designs. "We have a working party going into the problem of how a slum area can be demolished speedily, materials salvaged and stored, and the site rebuilt as quickly as possible."

Building in Scotland

Speaking in Aberdeen last Friday, the Minister of Works, Sir David Eccles, thanked the Scottish building and engineering industries for their output in the last two years. The Scottish building material producers, especially brickworkers, he said, had also put up record figures. Production is up from 468 m. bricks in 1947 to 788 m. in 1953. Sir David said that short of increasing the housing subsidy, which we should not like to see done, it does not look likely that for houses stone is economic. But he was hoping to help the stone industry very substantially by the big increase in licences for large buildings. Sir David said that the building outlook in Scotland for 1954 was good.

Mr. A. G. Jury, City Architect, Glasgow, speaking in Edinburgh on February 25 on multi-storey construction, said that sooner or later most of the larger cities and towns and many of the smaller would be forced to turn to multi-storey flats as the solution of their rehousing problems. The need to clear slums and replace them with low-cost housing of modern design involved many problems. He would not suggest that mere adoption of the policy would solve all the problems of rehousing and development, but it was obviously one way out of some of their difficulties. Speaking on the design trends, he stressed that each city and

country had its own architecture dictated by peculiarly local conditions, and that it would be quite wrong to graft, regardless, the multi-storey architecture of Rio, New York or Marseilles on to a British town. Nor at the same time should their multi-storey flats be neo-Georgian, neo-Classical, or Municipal Monumental in conception, but rather expressive of the characteristics of the locality involved.

R.A. Summer Exhibition

The Royal Academy opens on May 1. Days for receiving works (not more than three by any one artist) are as follows: For water colours, pastels, miniatures, black and white drawings, colour prints, engravings and *Architectural Drawings*: Friday, March 19



M. Auguste Perret died at the age of 80 on February 20 at his home in Paris. The most distinguished French architect, he was one of the first to realize and exploit the architectural possibilities of reinforced concrete, and had a strongly marked individual style. M. Perret was a member of the French Academy and the first Honorary President of the International Union of Architects. In 1948 he came to this country to receive the R.I.B.A. Royal Gold Medal.

(8 a.m.-7 p.m.). For oil paintings: Saturday, March 20 (8 a.m.-3 p.m.) and Monday, March 22 (8 a.m.-7 p.m.). For Sculpture: Tuesday, March 23 (8 a.m.-7 p.m.). Labels and forms can be obtained by letter from: *The Secretary, Royal Academy of Arts, Piccadilly, W.1.* A stamped, addressed envelope for reply must be enclosed.

APPOINTMENT

Mr. Thomas Jesty Williams, L.R.I.B.A., Deputy County Architect for Breconshire, has been appointed County Architect on the retirement in July of Mr. H. C. W. Strickland, F.R.I.B.A.

CHANGE OF ADDRESS

J. D. & B. Y. Tetlow, A.R.I.B.A., A.M.T.P.I., Chartered Architects and Planning Consultants, have removed their offices to Bank Chambers, 1, Bird Street, Lichfield. Tel.: Lichfield 2443, unchanged.

COMING EVENTS

Royal Institute of British Architects
Feb. 25 to March 27. Venetian Villas Exhibition. Mondays-Fridays, 10 a.m. to 7 p.m. Saturdays, 10 a.m. to 5 p.m. At 66, Portland Place, W.1.

March 8, at 6 p.m. Meeting of the Library Group. The evening will be devoted to the identification of unknown drawings in the possession of the Library. At 66, Portland Place, W.1.

Federation of Master Builders
March 5, at 2.15 p.m. The Annual General Meeting of the London Region, at the Connaught Rooms, Great Queen Street, W.C.2. Guest speaker, Sir Harry Selley, J.P., the National President of the Federation.

London Master Builders Association
March 10, at 2 p.m. General Meeting. Discussion on the R.I.B.A. Form of Contract. The meeting will be attended by D. C. C. Roberts and W. K. Laing, Chairman and Vice-Chairman respectively of the L.M.B.A. Contracts Committee. At Derry and Tom's Restaurant, Kensington High Street, W.8.

The Institution of Sanitary Engineers
March 11, at 6 p.m. Paper on "Joints in Water-Retaining Structures," by P. L. Critchell, Technical Service Officer, Expandite, Ltd., at Caxton Hall, Westminster, S.W.1.

IN PARLIAMENT

Licences for Bombed Cities

Mr. Foot asked the Minister of Works what was the value of the monthly amount of work to be permitted this year under the licensing system in the reconstruction areas of bombed cities, excluding the City of London; and in particular what was to be permitted in Plymouth. Sir David Eccles replied that there were now no financial limits to the amount of work licensed in the bombed cities. New projects were licensed as they came forward up to the capacity of the building industry in the area. In many of the cities he would be able to grant more applications than he had received so far this year. In Plymouth about £1,000,000 would be spent this year on work already licensed or about to be licensed. This was more than twice as much as in 1953. He would give more licences as the state of the building industry allowed. (Feb. 23)

Home-grown Birch

Mr. Vane asked the Minister of Materials, through the Minister of State at the Board of Trade, why more than £1,000,000 was spent last year on importing nearly 2,000,000 cu ft of birch timber, and what was being done to promote the use of home-grown birch. Mr. Heathcoat-Amory said that of the total import of sawn birch in 1953, about one quarter by quantity and one third by value was from Canada for essential purposes for which home-grown non-dollar birch was not suitable. The remainder was imported from non-dollar sources under a licensing system designed to give the importer and consumer the greatest possible choice of hardwood species within the limits of the United Kingdom balance of payments. From Nov., 1953, there had been no restriction on the quantity of non-dollar hardwood that might be imported. Subject to balance of payments considerations it was the Government's policy to give the consumer freedom of choice between imported and home-grown birch. Mr. Vane pressed for encouragement for the use of home-grown birch, and Mr. Amory pointed out that quantitative restrictions under quotas might be imposed for balance of payments reasons only. (Feb. 22)

Timber Inquiry

The Minister of Agriculture was questioned about the setting up of a departmental committee to examine and make recommendations about the economic conditions, and future marketing problems of the home timber industry. He replied that he hoped to make a statement soon. (Feb. 26)

Running Down

Mr. Nabarro obtained from Mr. Heathcoat-Amory the information that since October, 1951, private trading had been restored in timber, fertilizers,



H.E. The Italian Ambassador, Signor Manlio Brosio, who opened the exhibition of Venetian Villa photographs at the R.I.B.A., with the P.R.I.B.A. and (on right) Count Cavazzocca.

lead, zinc, aluminium, copper, true hemp, magnesium, pyrites and sulphur. Apart from raw jute and imported jute goods, private trading had yet to be restored only in tungsten ore. The cost of administration of the Ministry, which in 1951-52 was at the rate of £1,224,000, was estimated for 1953-54 to be £838,000; and the numbers of the staff were 1,866 in October, 1951, and 932 on February 1 this year. The Ministry still had much work to do, Mr. Amory said, including, among other matters, the disposal of large stocks of raw materials in its possession at the end of State trading, and he could not make any statement—as Mr. Nabarro desired—about the date on which the Ministry would be "expunged" (February 22).

Customs Due

Mr. Eric Fletcher asked why Customs duty was levied on a number of prefabricated houses presented by the people of Norway to the stricken families of East Anglia, and how many protests had been received. Mr. Boyd-Carpenter, Financial Secretary to the Treasury, stated that Customs duty on these houses was strictly due. But in view of the very special circumstances it would be waived, and where necessary refunds made. Mr. Fletcher said the decision would be generally welcomed; to say the least, there had been considerable amazement in Norway at the thought that their generous gift to East Anglia might be subject to Customs dues. (February 22.)

Metal Windows

Investigation

The President of the Board of Trade announced that the supply of standard metal windows and doors had been referred to the Monopolies Commission on February 24. The Commission will

investigate and report on whether the conditions to which the Monopolies and Restrictive Practices (Inquiry and Control) Act apply do prevail, and if so, in what manner and to what extent; the things that are done by the parties concerned as a result of or for the purpose of preserving those conditions; and whether they operate or may be expected to operate against the public interest. (February 25.)

"New Houses and their Setting" Exhibition

Representatives of over 50 local Authorities in the North West of England attended the opening of the Ministry of Housing and Local Government's latest Exhibition, "New Houses and their Setting," at Manchester on Friday, 19th February.

The Lord Mayor of Manchester, Alderman A. Moss, who performed the opening ceremony, emphasized the importance of the main theme of the Exhibition—saving land and reducing costs without sacrificing amenity.

"New Houses and their Setting" gives visual expression to the Ministry's recent handbook, "Houses 1953" and is a logical successor to the "People's House" Exhibition which toured the country in the winter of 1952/53 showing how, by compact design, building costs could be cut by £150 a house, and space and materials saved without loss of standards or amenity. The Exhibition has been prepared for the Ministry by the Central Office of Information.

After completing its stay at Manchester the Exhibition will visit Birmingham from 4th/11th March, Sunderland, 18th/25th March, and Bristol, 31st March/8th April inclusive.

CORRESPONDENCE

To the Editor of A. & B.N.

Glass in our Cold Climate

Sir,—The use of large areas of glass in buildings is not necessarily, as "Maintenance Surveyor" feels, a "naïve cliché," any more than the use of large areas of solid external wall; nor need it be associated with discomfort or wasteful heating. We do not advocate glass for all outside walls, since there are obviously many cases where it would be quite inappropriate, but, before casting judgment, some of the advantages and economies of the glass wall must also be considered.

The heat loss through one glass wall cannot simply be compared with the loss through a wall with small windows. The area of outside wall compared with that of floors, ceilings and inside walls should also be considered in both cases. The glass wall gives better lighting, so that rooms can be made deeper, allowing more compact planning and less outside wall—or lower, with less space to enclose and heat; and if the glass wall faces the sun, letting through some of its natural heat, the cost of artificial heating can be further reduced. (In summer this heat can, of course, be controlled by allowing for proper ventilation and screening.) The already accepted practice of cavity wall construction can be combined with the growing practice of cavity glass con-



A new chapel in red sandstone (shown in the foreground) has been added to Glasgow Crematorium at Maryhill. The architect is the Hon. James F. Cliftwood.

struction, or double glazing. The additional first costs are usually outweighed by the combined savings in the cost of the heating installation and its running costs.

Unlike "Maintenance Surveyor," we know of those who, even during the recent cold spell, have been comfort-

able behind a glass wall and can appreciate the sensation of freedom and lightness which it gives. We think that it is one of the duties of an architect to inspire the spirit by his skill in using the aesthetic effects of any materials he finds suitable.

We are, etc.,

PHILIP POWELL.
HIDALGO MOYA.

To the Editor of A. & B.N.

Imhof's Shop

Sir,—The intricacy of a gin-palace, the confusion of a successful party, neo-Oxford Street-baroque: this is the mood we tried to create, by request and by instinct, in Imhof's Shop and we have, it appears shocked Messrs. Westwood. Of course it's vulgar, of course it's overdone, of course it is not serious modern architecture and sales, we are told, have gone up marvellously as a direct result.

This answers, presumably, the Westwoods' queries on lights, mirrors, open fronts, the quick-or-the-dead look. Things we can't answer are:

(A) The staring contest. Many shop assistants are worth looking at and the Westwoods had a good stare but it seems unkind to deny the assistant a stare back.

(B) The Editor's generous devotion of space to this tasteless scheme (only outdone it seems by "the extreme attained by a monthly contemporary"). Well perhaps the Editor was tired of refined Corp, perhaps a serious attempt to be commercially jolly without borrowed motifs (Victorian, jars of polished coal) without borrowed clichés (House & Garden Italianate), perhaps this attempt was worth encouraging, we just don't know.

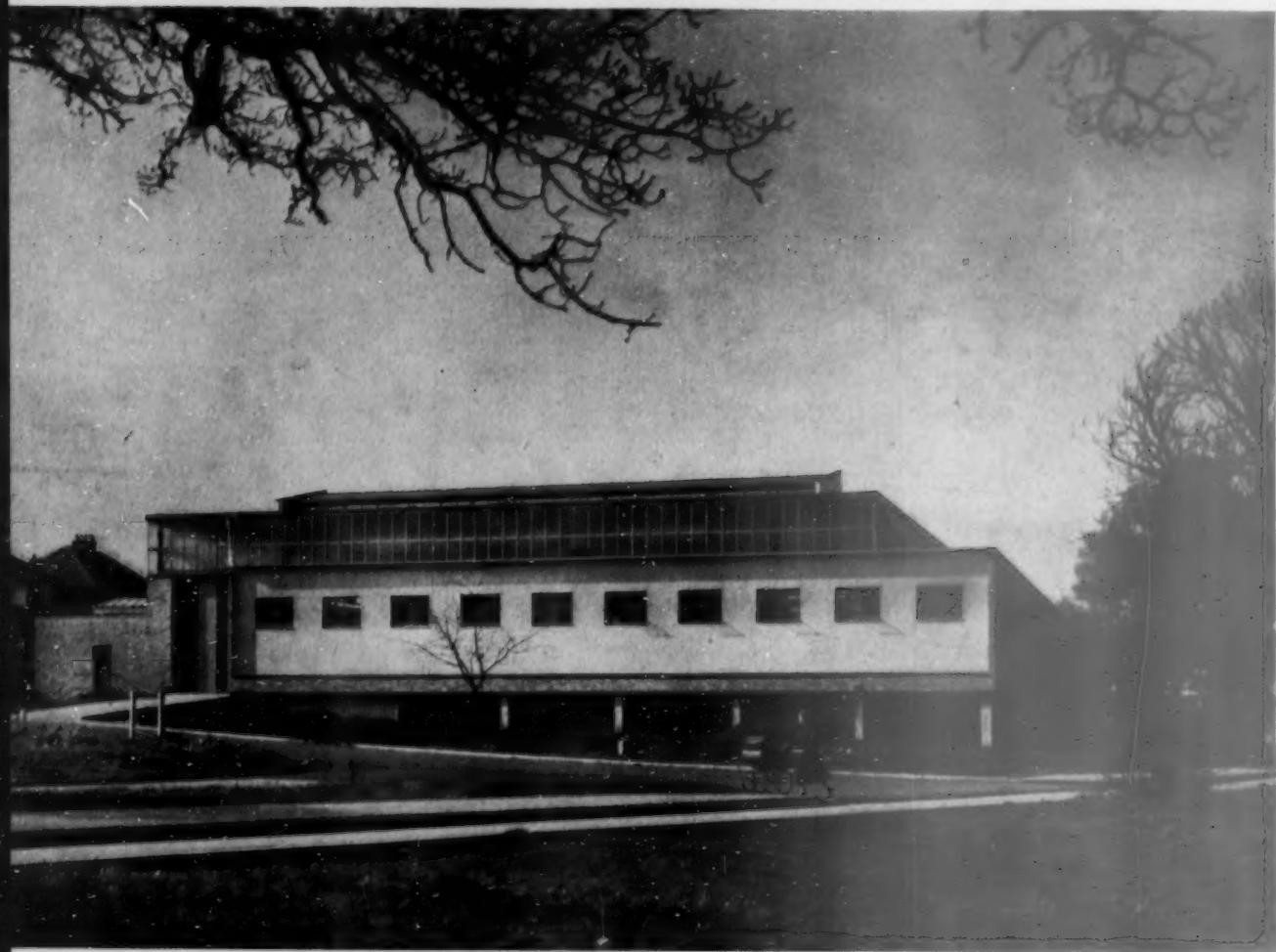
If we apologise, it is not for our job, but for this boring explanation.

We are, etc.,
TAYLER & GREEN.



Australia's National Memorial to America was unveiled by H.M. The Queen on February 16. The shaft of steel is covered with aluminium sheeting rolled at the Northern Aluminium Company's works at Banbury. It is 258 feet high and is surmounted by a sphere, supporting an American eagle, both fabricated as a single unit in aluminium. The architect was Richard M. Ure, Principal Architect of the Department of Works, Canberra. Consulting Engineers were Crooks and Michell of Sydney, and the sphere and eagle were designed by Paul Beadle.

NEW GARAGE AT LOUGHTON, ESSEX



Docking area from East. See plans page 258.



Administration
Wing
from
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for London Transport

architects:

YORKE, ROSENBERG & MARDALL
 in collaboration with
THOMAS BILBOW, Architect to the Executive
 associate architect: **J. R. PENOYRE**
 assistant architect: **J. S. P. VULLIAMY**

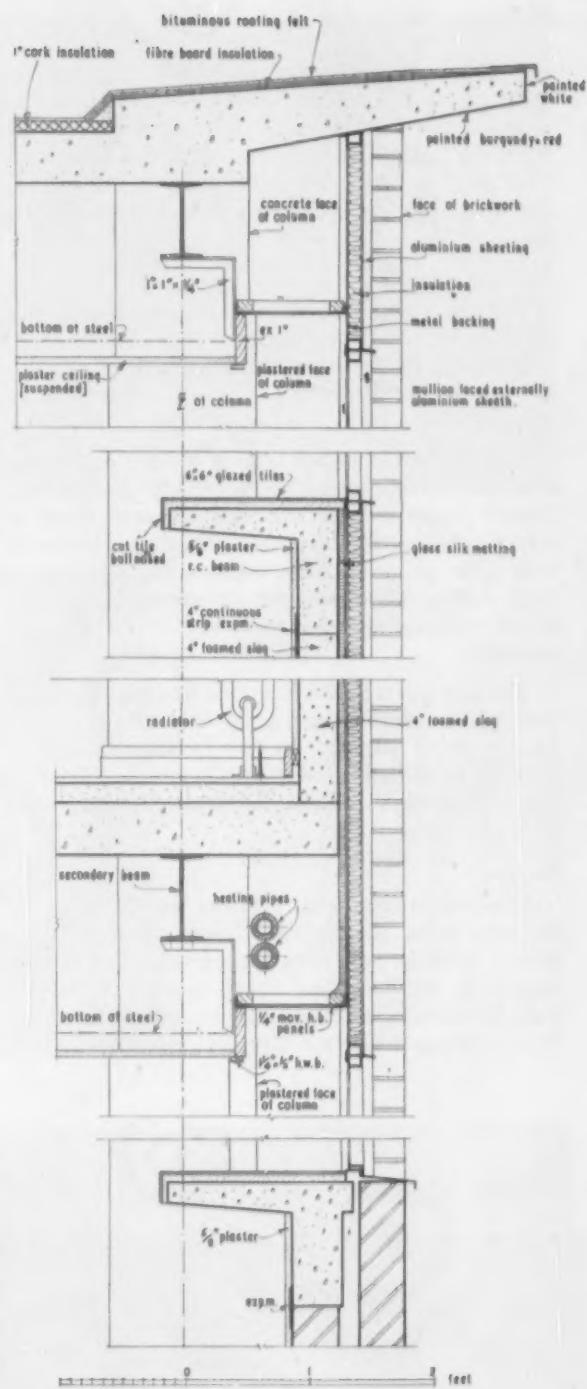
THIS new garage which forms part of the Transport Executive's post-war programme, was put into use at the end of last year. It is built on a site (93 per cent of which is covered by the building) which is restricted and irregular in shape with a 15ft fall from West to East. Only at one point was access permitted and therefore the entire operational area of the garage is kept at one finished level. This is achieved by means of an entrance ramp leading down to the main parking area which is partly in cut and partly on fill, while the docking area has a suspended floor slab.

Planning and Operation

The garage is divided into three principal units: Office and Canteen Block, Parking Area and Docking Area. The Office and Canteen Block (9,000 sq ft) contains the Conductors Room and Traffic Office—from which the operation of buses is controlled on the ground floor and above these offices are the Canteen, Kitchen, Recreation Room and a Dining Room for the Administrative Staff.

The Parking Area (49,500 sq ft) is for 137 buses. Here the bus on entering one of the three servicing bays is refuelled, given lubricating oil, vacuum cleaned and automatically washed—within about four minutes. This area also contains five inspection pits for routine maintenance.

The Docking Area (31,000 sq ft) is for major repairs



SECTION THROUGH
ADMINISTRATION WING



Main entrance and administration.

New Garage at Loughton

and contains ten inspection pits. Each pit is provided with special lighting and heating, vacuum cleaning points, a bus exhaust extract system, compressed air, waste oil drainage and, in two cases, hydraulic jacks. This area also includes ancillary stores, offices, and workshops, in addition to a high pressure steam cleaning booth.

Construction

The Office and Canteen Block is steel framed with bays 37ft × 10ft. Stanchions are encased in concrete; beams concealed by suspended ceilings. Roof and floor slabs are reinforced concrete. The roof insulation is lin cork. External panel walls are 11in cavity brickwork.

In the Parking and Docking Areas the roof is of welded steel trusses, on primary and secondary systems, with channel purlins and steel decking. Perimeter bands of vertical glazing 7ft high are carried by steelwork. Roof lights are portal frame monitors with 6in concrete block cheeks. The whole steel structure is independent of the surrounding brick walls and is free to move separately.

The floor slab of the Parking Area is of reinforced concrete with hardened integral grano, laid on mass concrete fill (at places 5ft deep). The Docking Area floor is of 8in reinforced concrete with 2in hardened grano, laid on permanent shuttering of asbestos sheets, carried on sleeper walls.

Finishes

Administration Wing: Floors are Quarry tile in bus crew areas, Kitchen and Canteen; linoleum elsewhere. Walls in crew areas are generally tiled to door height. In the Recreation Room, wall finishes are in cork, fair-faced brickwork, painted plaster and hardwood slats. Ceilings which are normally suspended, contain

panels of acoustic Gyproc with glasswool quilting where rooms are liable to much noisy use.

Parking and Docking Areas: Fair-faced brick walls are painted. The dado in the Parking Area is rendered and painted in panels. In the Docking Area it is tiled. The skirting in both areas is of blue Staffordshire bricks.

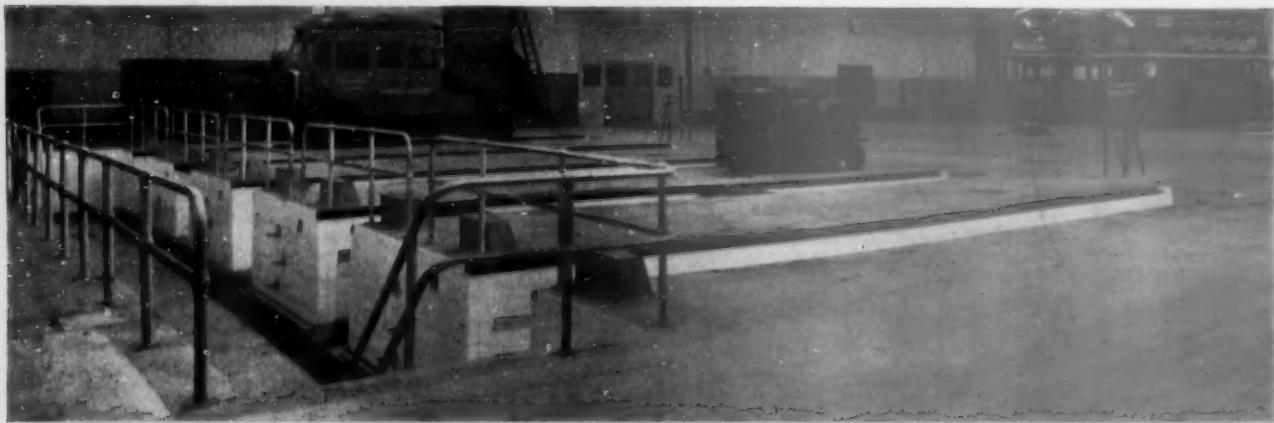
All services are exposed and painted in appropriate B.S. colours. The pits are finished in fair-faced concrete painted with rubber-based paint and glazed tiles.

External: Second hard stocks are used generally. The recessed wall beneath the Stores is in dark grey multi stocks on the North-East side and white Tyrolean render on the South-East elevation. Eggshell glazed tiles (in white and grey) are used on the North-East elevation. Monitor checks are rendered and painted white.



Entrance hall with Conductors' room beyond.

Inter-dock inspection pits, West of the docking area.



The Canteen. The tiles which surround the servery are coloured wine red; reveals are white. On the flank walls, tiles up to door height are yellow colour. Floor tiles are buff and heather quarries.

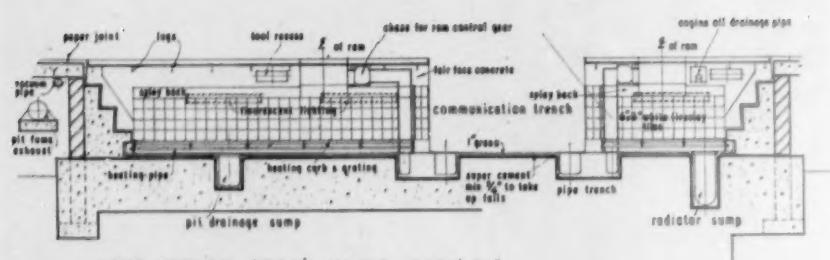


Notice cases in the entrance hall have waxed oak frames. Tiles under the cases are yellow. Floor tiles are blue-black quarries. The column is painted Burgundy red.

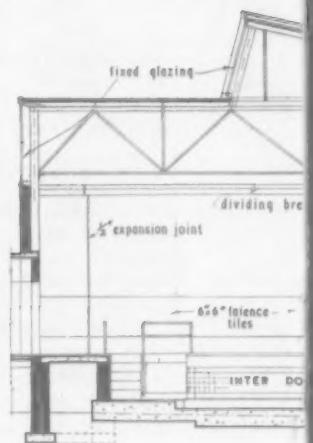
The Conductors' room is used for making up accounts and paying in. Red, yellow and white tiles are used for the mural on the far wall which is by Peggy Angus. The columns by the window are painted signal red.



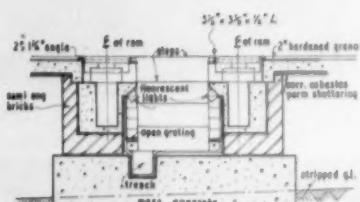
New Garage at Loughton



LONG SECTION THRO' MAJOR DOCK PIT



SECTION A-A



CROSS SECTION SHOWING JACKS

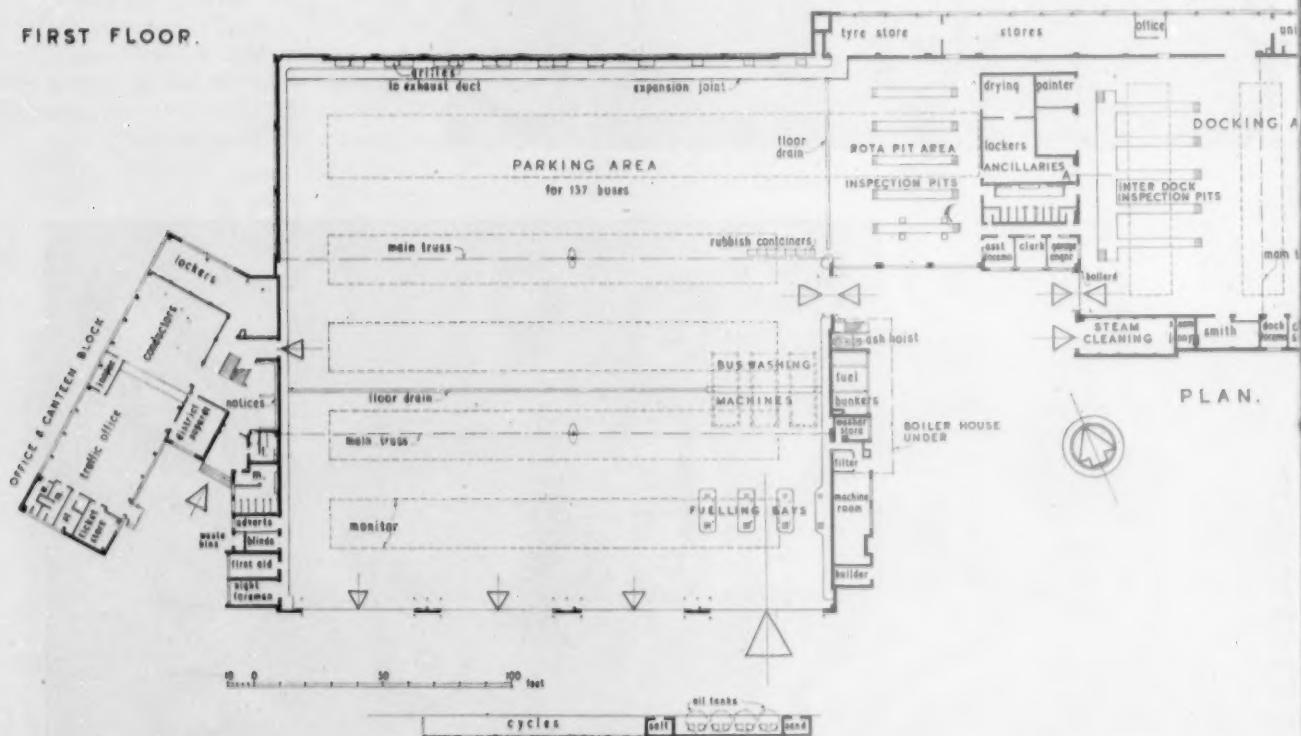
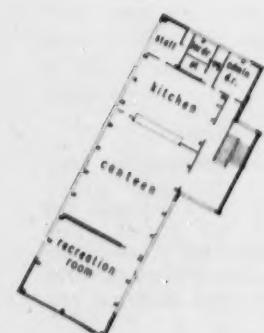
architects: YORKE, ROSENBERG & MARDALL

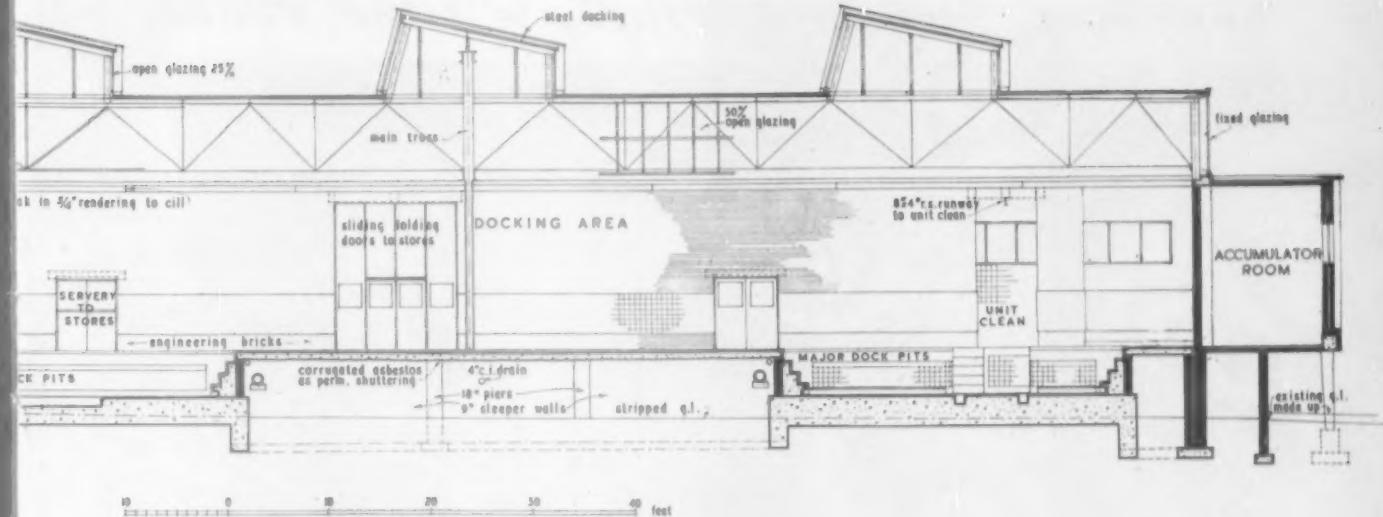
consulting engineers: CLARKE, NICHOLLS & MARCEL

heating and electrical consultants: OSCAR FABER & PARTNERS

quantity surveyors: CYRIL SWEETT & PARTNERS

FIRST FLOOR.

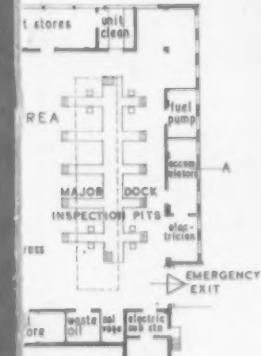




general contractors : GEE, WALKER & SLATER Ltd.

Asphalte Tanking : Neuchatel Asphalte Co. Ltd. Electrical Installation : Troughton & Young Ltd. Fire Resisting Doors and Sprinklers : Mather & Platt Ltd. Fluorescent Fittings : Strong Electric Corporation (Gt. Britain) Ltd. Granolithic Paving : Prodorite Ltd. Grilles to drains and Staircase Balustrade : Wainwright & Waring Ltd. Heating and Ventilation : Richard Crittall & Co. Ltd. Ironmongery : A. G. Roberts Ltd. Joinery and Doors : Gee, Walker & Slater Ltd. Kitchen Equipment : Benham & Sons Ltd. Metal-work : Light Steelwork (1925) Ltd.; Wessex Guild Ltd. Metal Cupboards : Amalcraft Ltd. Oil Tanks : Wayne Tank & Pump Co. Ltd. Paints and Distempers : Thomas Parsons & Sons Ltd. Plumbing, Drainage and Hot Water Services : Richard J. Audrey Ltd. Roof Coverings : Wm. Briggs & Sons Ltd. Sliding Doors : G. W. King Ltd. Steel Deck and Coverings : The Ruberoid Co. Ltd. Steel Screens, Steel Doors, and Windows : Williams & Williams Ltd. Storage Tanks : Richard Thomas & Baldwin Ltd. Structural Steelwork : Power's & Deane, Ransome's Ltd. Suspended Ceilings : Dejong Fibrous Plaster Ltd. Traffic Counter : H. N. Barnes Ltd. Terrazzo : Art Pavements & Decorations Ltd.; V.G. (London) Ltd. Tiling : Carter & Co. (London) Ltd. Vacuum Services : The British Vacuum Cleaner & Engineering Co. Ltd.

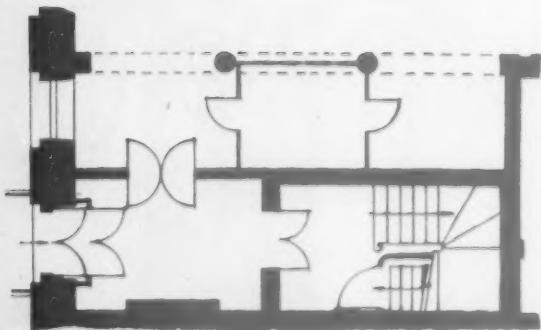
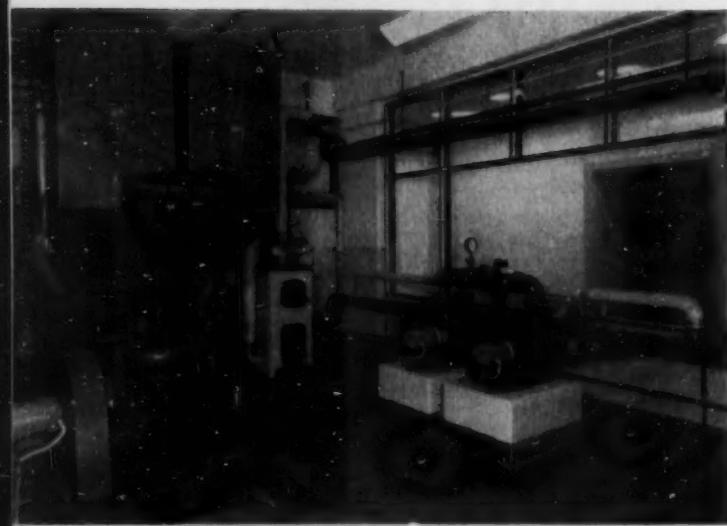
Parking area with fuelling bays, left. Bus washing to right.



Showroom, Stratford Place, W.I for Federated



Above : A view of Showroom No. 1 showing Exhibition Bathrooms on left and Engineering Display Section on right. The furniture is by S. Hille & Co. Limited. The formica and marble table was designed by the Architects. Below: A view of basement Exhibition Boiler Room showing Automatic Stoker. Staircase, to right in the picture, leads up to Showroom No. 1.



Foundries Ltd.

architect: SERGEI KADLEIGH
A.R.I.B.A., A.A.(Hons.)Dip.

assisted by: MICHAEL LYELL
A.R.I.B.A., A.A.(Hons.)Dip.

THE existing building was required to be converted into office and showroom accommodation for Federated Foundries Limited. The main requirements were to provide:—

1. Exhibition Boiler Room in the basement to exhibit an automatic stoking boiler for central heating and hot water, as made by one of the Companies in Federated Foundries Limited.
2. Exhibition showrooms over the whole of the ground floor to exhibit the various goods produced by each Company. These range from rain-water and drainage fittings, architectural iron work and castings, wrought-iron railings and staircases, and illustrations of heavy machinery, shipbuilding, etc., in which the firms take part, to domestic items such as cookers, continuous burning fires, sanitary fittings, etc.
3. Provision of a passenger lift opening off the entrance foyer to serve all floors, including basement.
4. Provision of new entrance to building, with adjacent enquiry office and direct access to showrooms and main staircase to the first floor.
5. General alterations to upper floors to provide the office accommodation required, with partitioning of the large rooms as necessary.

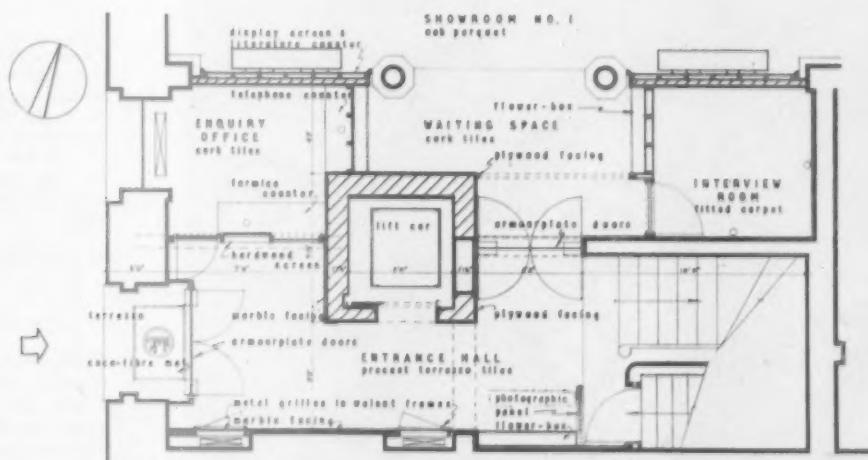
The main items of new work are: 1. A new lift well with 13½in brickwork up to second floor level and 9in brickwork above with a new lift motor room projecting through the existing roof. 2. A new reinforced concrete floor over the boiler room, as required by the L.C.C. 3. Various alterations adjacent to the main entrance to provide the new entrance hall (see plans of building both before and after alteration). 4. Strengthening of second floor for office loading. 5. Steelwork for false ceilings.

All the joinery and fitments in the showrooms were

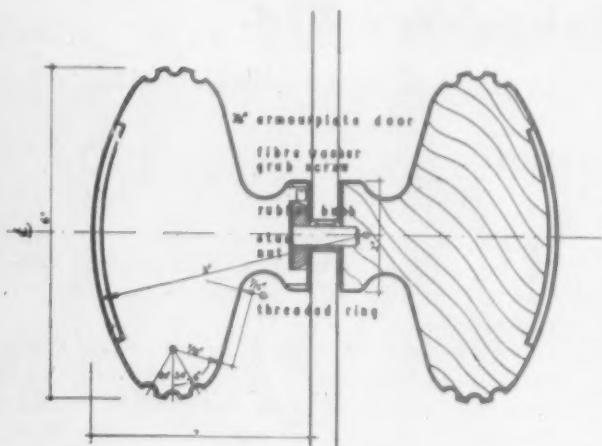


Glazed screen dividing Showrooms Nos. 1 and 2, with illuminated recesses for "AB" Fires and photographs illustrating the work of Federated Foundries Limited.

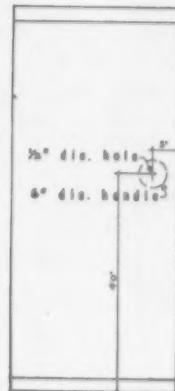
PLAN BEFORE



PLAN AFTER



Showroom, Stratford Place



GENERAL CONTRACTOR:
John S. Parker Ltd.

Armourplate Doors, Mirrors : T. & W. Ide, Ltd.
Carpet : C. & J. (Carpets), Ltd. Electrical Installation : Armfield Electro Power Co., Ltd. Flooring : Semtex, Limited; Great Metropolitan Flooring Co., Ltd. Flues : Economic House Drainage Repairing Co., Ltd. Furniture : S. Hille & Co., Ltd. Heating : Thames Bank Iron Co., Ltd. Lift : Pickering's, Ltd. Marble : J. Whitehead & Sons, Ltd. Shopfitting : F. E. W. Models & Displays. Tiling : Carter & Co., Ltd.

Main entrance from Stratford Place showing view through armourplate doors to Entrance Hall, dark green marble wall facing, and main staircase beyond. The floor is precast terrazzo tiles.

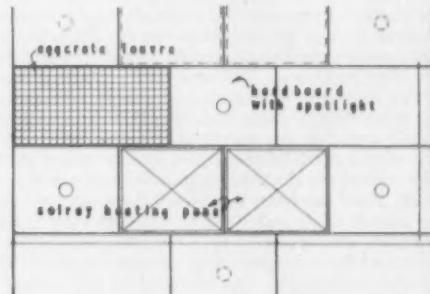
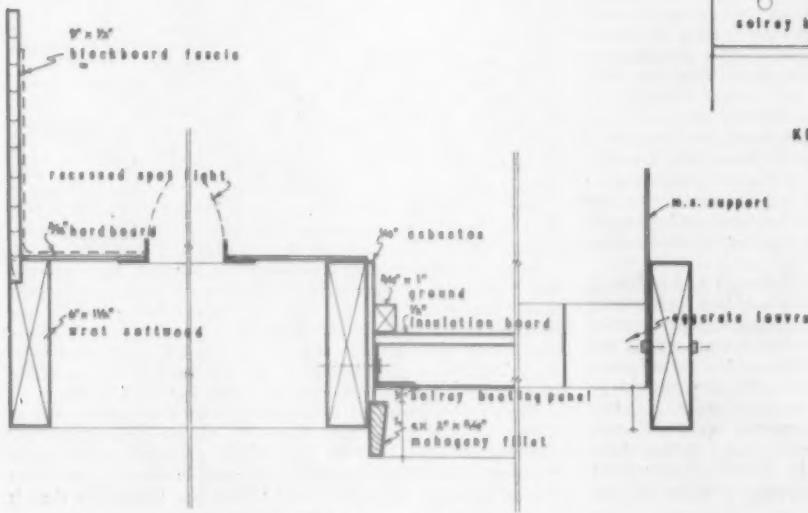


False ceiling over Showroom No. 1 containing "egg-crate" and spotlight illumination and "Solray" heating panels.

Continued from page 261

specially designed and constructed by the shopfitters to exhibit the various items previously referred to.

The building was completely rewired and a new hot water and central heating system installed. All flues which were to be used for coal-burning fires had to be relined.



KEY TO CEILING PANELS

Details
of
false ceiling.
Scales: 1in=6ft
and $\frac{1}{2}$ F.S.

SECTION THRO' 3 DIFFERENT PANELS

An Experiment in Modular Co-ordination at Antwerp

A report on the first part of the paper read by Prof. Hugo van Kuyck, O.B.E., before the Modular Society on the 17th of February

Professor van Kuyck began by saying that he wanted to talk about modular co-ordination, but not in the form of final conclusions to be drawn on the subject, not indeed conclusions at all but merely to give some information concerning the reasons for undertaking such an experiment in Belgium and the results achieved to date.

First, why modular co-ordination? Was it something intrinsically of interest to architecture or building? He did not himself think so. The idea had grown out of the necessity for industrialization of the building trade. Even long before the war it has been realized in various countries that building methods were not at all up to date, and had failed to keep up with improvements in production methods in other fields of industry. The methods then, and still, used in the building trade were already well perfected in the Middle Ages; considering the fantastic progress made in various production methods it was astonishing how far behind the building trade had remained. That situation could be traced to a number of reasons: generally speaking the simplest conclusion drawn was the one leading to the most improvement, it was realized that what made building so expensive was the terrific amount of labour that went into it. So the immediate conclusion was the necessity of discovery how to reduce the amount of labour that went into a building. Study and analysis was made of the problem in Belgium, and in 1937 three buildings were selected for study. Careful accounting of how the price of those buildings was made up was carried out—by price he meant industrial price, not the commercial price at which a building was sold, but the summation of all that went into those buildings in the forms of materials, energy and manual labour. Regarding materials it was calculated how much raw material went into the building, that is how much clay to make the bricks, ore to make the metals, etc., not how much finished copper or steel as sold on the market but the basic raw materials. In Belgium a lot of timber was used in the building trade, and as there was no significant local supply of good wood that timber had to be imported. Apart from timber and a few other materials Belgium could supply the building trade with its raw materials. The accounting showed that the timber going into the buildings under survey was costing between 4 to 5 per cent approximately. All the other raw materials taken together amounted to approximately 1 or $\frac{1}{2}$ per cent. So all the materials together, including the heavy charge for the important timber, amounted to about 6 per cent of the cost. Next the energy requirements were tabulated: by that he meant what was necessary to bake the bricks, to reduce the ores, and work done in the factories and on the building site, and for transportation. It was calculated that the value of that energy was approximately 3 per cent of the price of the building. The remaining 91 per cent of the price was labour: labour in all activities of the factories, in transportation and on the building site. Obviously, therefore, if it cost 100 per cent to build one building—volume or unit—then if labour costs could be reduced by half it would cost 109 or 110 per cent to build two units. By far the most important item was to effect reduction in labour costs in order to reduce building costs.

The problem of reduction of building costs had arisen in England and other countries, and Belgium had had to face the problem too. Producers of new materials had approached architects and builders saying their products cost, say, 25 per cent less than previously used materials and were as good, so why not use them? The materials were usually laboratory tested and gave good insulation, or were rot proof, etc., but what they did not usually do, and what was not mentioned, was to reduce the amount of labour necessary to use them as compared with traditional materials. That was why those new products, though good and probably a little cheaper

than the older materials, did not materially effect reduction in building costs.

When analysing for a reduction of labour it was clear the first place to look was at the amount of labour absorbed in the prefabrication of items in factory and shop. However, it was known that in most factories and shops labour had already been fairly well reduced, because, generally speaking, industrialists were good at their job. Where labour had not been, and could not be, reduced was on the building site, mainly on account of the building traditions, because of the way in which building was tackled.

Now, how was the problem of building tackled? First an architect was approached, and he designed the building. He himself determined, for reasons which were more or less valid, the dimensions of every item to go into the building. Next the plans, and the specifications added to them, were given to the contractors who were to build the building: at that stage it was already too late to do anything much about the reduction of building costs. The builder could do many things—he could make the building site as efficient as possible, he could organize and mechanize, etc., but really could do little towards significant reduction of building costs, because in the plans drawn by the architect were already the major difficulties making that impossible. Effective reduction in the price of building must be dealt with at the planning stage, incorporated in the actual planning by the architect. The problem had been approached in various places, and the conclusion of most of the people who had attempted to solve it was identical: that the architect should plan his building using exclusively a number of industrially produced items with which he can compose his building, all of which have a basic dimension of, say, one inch. For example, a door would be a certain number of inches wide, and an alternative variation would be the same width plus one, two, three or four inches; and similarly for height. Most architects would agree perfectly well with an industrial system of that sort; if they thought variations of an inch insufficient, a half-inch could be used. On the other hand, industrialists would require as few variations as possible. If it was proposed to an architect that he should carry out the composition of a building with items of which the dimensions increased by one foot—take the door again, the first width two feet and the next three feet and another four feet—then architects would be less happy, because four feet is too wide, one foot too narrow, and neither two feet nor three feet are very happy dimensions for doors. It is therefore not a matter of principle for the architect to compose with industrially predimensioned items so much as it is a matter of agreeing between architects and industrialists what variation of dimension would be commonly acceptable. That problem has been approached by various countries: as you know, the Americans have made an extremely interesting study upon it, through the Producers' Council and Association of Manufacturers.

At the request of Mr. Beamish, the founder of the Beamish Foundation at the Massachusetts' Institute of Technology (it is a research foundation for building techniques), an enquiry into this matter was started. The Americans made a thorough study of the problem: they called this increase of dimension the "increment of dimension," and their analysis led them to determine that four inches would normally be an acceptable increment of dimension in the building trade. He did not wish to go into the details of that conclusion at present, but that was the conclusion they reached. During the war, when they were practically cut off from all outside information, the Swedes made a thorough study of the same problem, and reached a very similar conclusion entirely independently; they found ten centimetres to be the normal increment of dimension applicable to items in the building trade.

Why is it necessary to determine such an increment of dimension beforehand? Why not simply standardize all elements which could be industrially prefabricated without keeping in mind any special increment of dimension? One reason entirely particular to the building trade was that it

left the architect a large amount of freedom in using the various items industrially produced. Those items had to be dimensionally interchangeable; it was essential that a unit of wall, a window, a door, or a unit of floor should have dimensions which were interchangeable with each other, and the interchangeability required for those items had led to the notion of a module. The word was perhaps not happily chosen as it was already used by architects in another sense, but that could not be altered now. The notion of a module, which was really an increment of dimension, of about ten centimetres or four inches, was a notion arrived at automatically from considerations relating to industrialization of the building trade. A similar problem had arisen 50 years earlier when industrialization of the shoe industry started. Everybody had thought that to get a good shoe it was necessary to go to the best shoe maker, who took careful measurements of your foot and made a comfortable shoe. Everyone knew no two people had exactly the same feet: they might be wider, longer, thicker or more sensitive, etc. Once mechanical shoe production started it was very quickly discovered that it was sufficient to increase the production of each variety by a certain dimension to give everyone a reasonably comfortable shoe. When a reasonable dimension had been developed it was possible further to refine production methods by application of the increment not only to length or width, but to the heel or forepart of the shoe and so forth. To-day almost everyone wore mechanically produced shoes, and the increment of dimension which made that possible had developed easily and was the module of production in the shoe trade. The Americans were convinced that when the problems of the building trade were worked out completely the notion of the appropriate module would develop naturally, and it would lose the artificial character it now had; they were convinced this new idea was the best method of approach to industrialization of the building trade to achieve reduction of costs.

Of course the problems in the building trade were more complicated and difficult to solve than those in other industries, and it was therefore necessary that some rather arbitrary decision on the choice of the module should be made in order to enable further investigations of the problems involved to be made. That was the reason for Belgian legislation a couple of years previously prohibiting standardization of any new items in the building trade by the Belgian standardization office unless it complied with a module of ten centimetres. The actual module was for the moment completely immaterial, whether ten centimetres or four inches was used depended mainly on the system of measurement in use: applications of the conclusions drawn from one module would be identical with those drawn from another system. It should be emphasized the selected module was not at all a final decision, everybody would be quite prepared to revise it if necessary in five to ten years' time. They considered that module only as a preliminary approach to the problem, because actually few items in the building trade were used simply with the dimension of the module; they used it in the form of what were called "preferential multiples" of the module. Taking a door as example, doors were made 70, 80 and 90 centimetres wide. Ninety centimetres is approximately three feet: 60 centimetres, about two feet, was too narrow and one metre too wide. So in the modular standardization of doors 70, 80 and 90 centimetres had been accepted. Likewise two heights had been accepted—2 metres and 2.10 metres. As a result of that application of the modular system practically only six types of door were produced, and of those six more than half the doors produced were 80 centimetres wide by 2 metres high. That preferential module was essentially a "use module," a "module d'usage": but when considering a certain module, a "module de construction," it did not necessarily coincide; what these two modules must have in common was that they must have the same basic agreed module, ten centimetres, which was what guaranteed their interchangeability.

In the experiment under way in Antwerp they were trying—and that was one of their difficulties—to mix the traditional methods of building with the prefabricated industrialized method. That was necessary, unfortunately, because they had not yet enough industrialized items to make the buildings completely—the buildings were com-



Flats at Antwerp by Prof. Kuyck

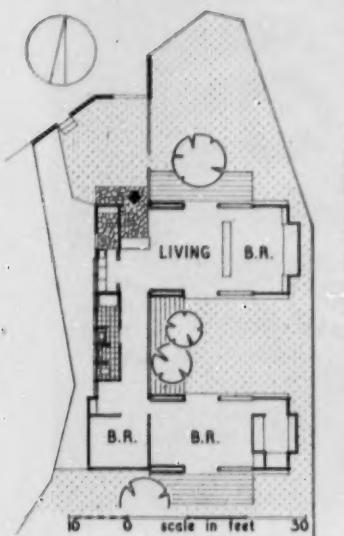
pletely modulated, but it was not yet possible to take advantage of a complete modulation system to the full. Consequently in the first building going up an entirely traditional structure was used: the skeleton in concrete, walls in brick, and a number of traditional items were used; but all the equipment going into the building was completely industrialized—windows, doors, door frames, etc. That was as far as the experiment had been taken in the first building. In the second it had been taken further, and landings and staircases were prefabricated and prefabricated concrete was used. They were working towards complete prefabrication of all exterior and interior elements, and in the last building—of which he would show the preliminary project—it was hoped that aim would be achieved.

In practice it had been found that the application of this modular system required an entirely new approach by the architect. The architect was a man who, through the study and practice of his art, was not trained in any form of industrial production, and it had been found that to have an architect design something and then hand that design over to an industrialist for expert industrial production afterwards was not a possible way of solving the problem; ideas such as industrialization had to be incorporated into the project right at the very beginning. That was the reason for setting up a different system: instead of the normal procedure of the architect drawing plans and passing them first to the structural and equipment engineers and then the production industries, they had established a team, or group, where all the various ideas were discussed by all concerned before plans were drawn, so that the production possibilities were already incorporated in the first plan. This was perhaps the most significant revelation, he thought such preliminary discussion essential to the success of industrialization of building.

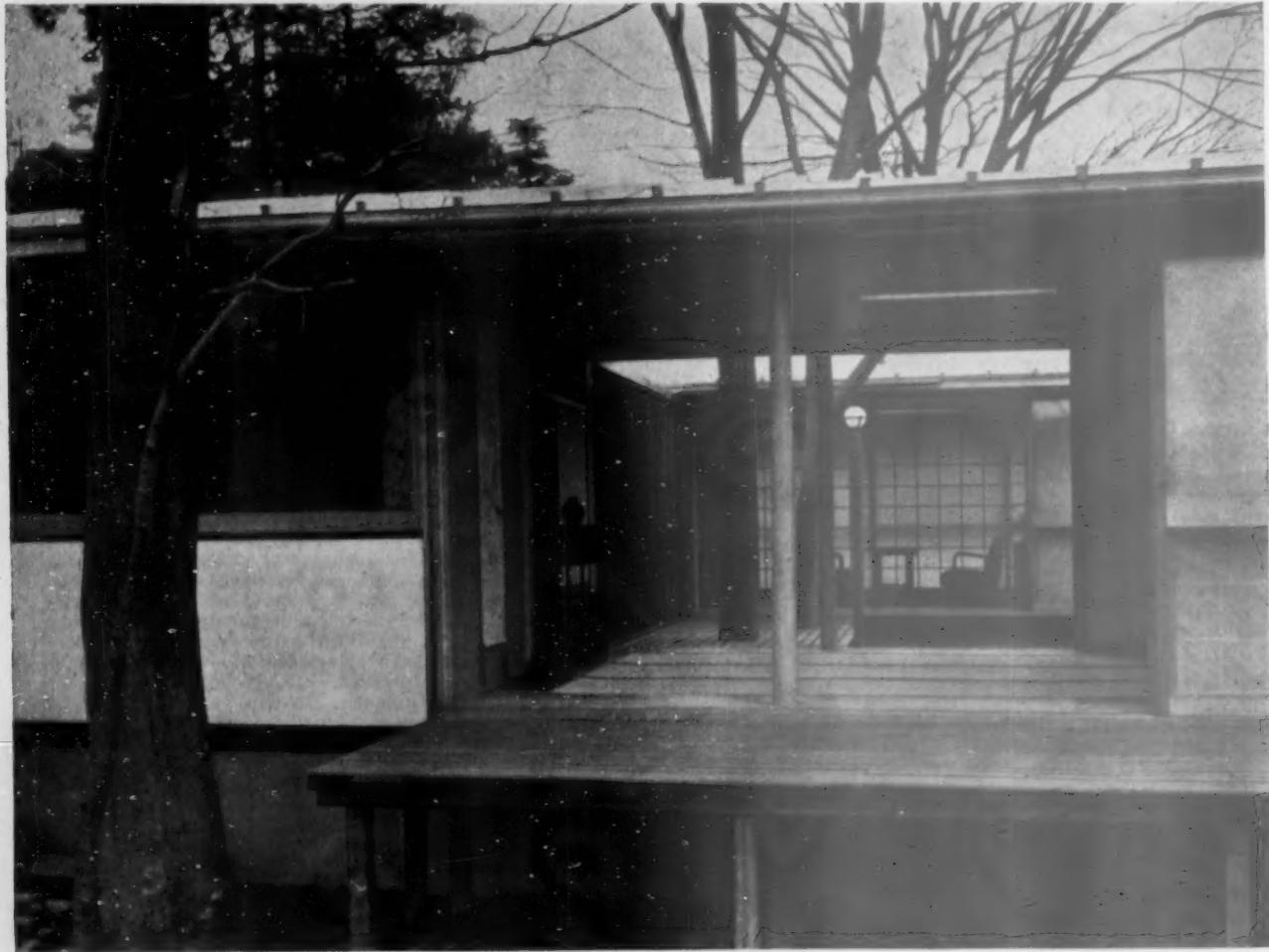
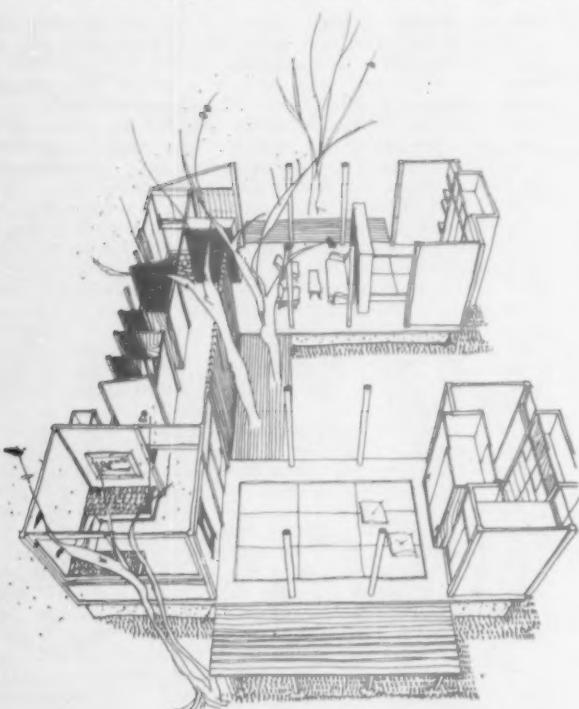
Professor Hugo van Huyck proceeded to discuss a Swedish experiment and his own work in Antwerp, illustrating his points with drawings and photographs. The complete text, with the illustrations, will be published in "The Transactions of the Modular Society" in about six weeks' time. Copies of the Transactions, which are free to members of the Society, can be obtained for ten shillings from the Secretary, Mark Hartland Thomas, at 22, Buckingham Street, W.C.2.

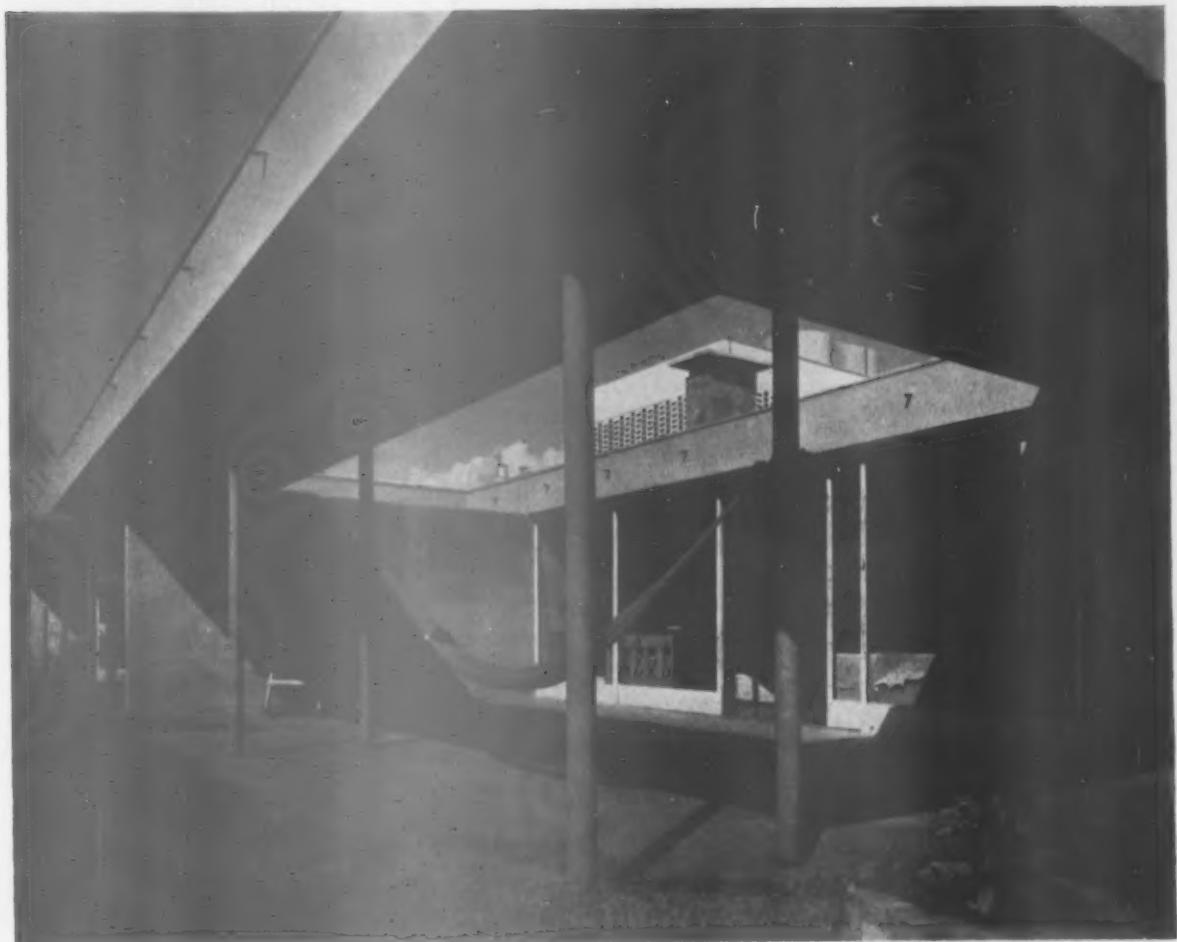
A JAPANESE HOUSE IN TOKYO

architect: KIYOSI SEIKE



A small single-storey house on the outskirts of Tokyo, accommodation is provided in the traditional Japanese manner for seven. The picture below was taken from the south, the sketch on the right is an aerial view with the roof removed.



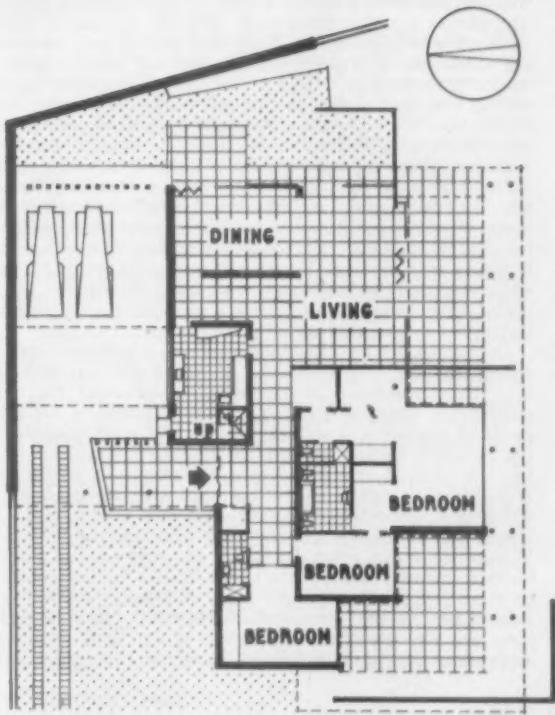


A HOUSE IN
CUERNAVACA, MEXICO

architect : MARIO PANI

This Mexican house relegates the servants' quarters to the entire first-floor portion, thereby keeping the ground floor intact as a living unit. The picture at the top of the page was taken from the South-East.

FIRST FLOOR PLAN



10 0 80
scale in feet

Information Digest

OFFICIAL PUBLICATIONS

- **The Mastic Asphalte Spreader.** Published by H.M.S.O., York House, Kingsway, W.C.2. Price 9d.

This new illustrated booklet issued by the Central Youth Employment Executive is one of a group in the series dealing with the various occupations in the building industry and describes the small but important craft of mastic asphalte spreading. The booklet describes the day-to-day work of the spreader, his equipment, the tools he uses, and gives details of apprenticeship, technical training, wages and other information. The booklet is intended primarily for boys who are about to decide what to do on leaving school, but it will also be of interest to parents, teachers and others who are concerned with school leavers.

- **Ministry of Works Leaflet No. 35.** Published by H.M.S.O., York House, Kingsway, W.C.2. Price 3d.

This leaflet explains what prestressed concrete is and describes common methods of prestressing. It is not, however, a guide to the making of prestressed concrete. It draws attention to the advantage of using factory-made precast prestressed units which can now be obtained, such as small beams, floor joists, posts, etc., and gives hints on how to use them. This is another of the Ministry's advisory leaflets designed to give the information in simple and practical form to the small builder, clerk of works, foreman and craftsmen.

- **B.R.S. Digest Nos. 58, 59, 60 and 61.** Published by H.M.S.O., York House, Kingsway, W.C.2. Price 3d.

Digest No. 58. Deals with condensation on wall and ceiling surface. It classifies various conditions where condensation is likely to arise, and gives useful information concerning appropriate treatments, for condensation of varying severity. A schedule is given of properties of paints in relation to use where condensation exists, and this is coupled with a note to the effect that it is advisable to check with the manufacturer that the particular paint is suitable for the proposed use.

No. 59 deals with the use of hardwood in building. The introduction gives a recent survey of the hardwood position and points out that hardwoods are not necessarily harder than softwood, but that the words softwood and hardwood are conventional trade terms for the two main classes of commercial timber. This is not always generally appreciated, but the position is that softwoods come from coniferous trees such as pine, spruce and fir, whereas hardwoods come from broad-leaved trees. The Digest gives details of positions where the wide variety of hardwoods available can be usefully used, such as flooring, joinery, carcassing timber, etc. Suitable timbers are listed for the various purposes and a note is given on the more important hardwoods available for use in building. These are based on "Hardwoods for Building and General Purposes," published by H.M.S.O., and cover medium hardwoods, and heavy hardwoods, giving useful information and forming a valuable classification of the more unusual timbers now available.

Digest No. 60 deals in condensation in domestic chimneys and supersedes Digest No. 5. It points out that although the traditional brick construction has provided the most satisfactory form of chimney for many purposes for hundreds of years and is still accepted as the most trouble-free type, defects caused by condensation have occurred since the introduction of small domestic boilers. In recent surveys on some estates it has been shown that as many as 90 per cent of the houses have been affected in this way. The Digest sets out the symptoms which arise from condensation in chimney stacks, gives the causes and suggests precautions for new chimneys such as the use of linings that are resistant to attack, protection against rain, increasing the thermal insulation, and the admission of extra air. Recommendations are also given for the repair of damaged chimneys, methods of dealing with stained plaster, and the question of

the most suitable fuels and the storage of fuel to reduce this problem.

Digest No. 61 consists of an index to previous Building Research Station Digests Nos. 1-60 and also includes a short list of corrections to previous digests.

- **British Standard Code of Practice C.p. 304. 1953. Soil and Waste Pipes above the ground.** Issued by the British Standards Institution, 2, Park Street, London, W.I. Price 6/-.

The Council of Codes of Practice for Buildings has now issued in final form Code 304. The Code deals with the design and installation of sanitary plumbing systems such as internal and external soil waste and ventilating pipes above ground level, but not rainwater pipes. Detailed definitions are given to terms used in the Code, together with a full list of British Standards covering all materials and appliances likely to be used in the work described. The section dealing with the design considerations contains details of the various systems in use and includes recommendations as to the general layout and design of pipe sizes and gradients to carry the discharge from various combinations of sanitary appliances. Tables are included giving suggested values in the terms of discharge units for various sanitary appliances together with tables of suitable sizes and slopes of pipes based on these values. Other matters of design dealt with in this edition include traps, ventilation pipes, pipe fixings and advice on the provision of adequate access points, to enable proper cleaning of the system to be carried out. Guidance is given for inspection with details of the various tests used for sanitary pipe systems. The appendix contains extensive data and tables to assist in the design of single-stack plumbing systems in one- or two-storey houses. The Code is completed by seven diagrams which illustrate clearly the important points mentioned throughout the document.

- **British Standard 2035. 1953. Cast Iron Flanged Pipes and Fittings.** Price 6/-.

This British Standard is a companion to B.S.78 Cast Iron Pipes for Water, Gas, Sewage, etc. It also supersedes Sections of B.S.78 dealing with Flanged Pipes and Fittings. The specification covers the range of flanged pipes and fittings made of cast iron, giving details of dimensions, weights of material, etc., together with the appropriate diagrams and includes information concerning the quality of material to be used, the necessary tests and details of B.S. marking.

- **British Standard 2028. 1953. Precast Concrete Blocks.** Price 3/-.

This British Standard covers three types of precast concrete block as follows: Dense aggregate concrete blocks, light-weight aggregate concrete blocks for load bearing walls, light-weight aggregate concrete blocks for non-load bearing partitions. The specification gives details of the materials to be used, methods of mixing, dimensions, widths of cavity, curing, and tests. Appendices deal with items such as the carrying out of compressive strength tests, determination of drying, shrinkage and moisture movement, and the method of carrying out transverse tests for light-weight solid blocks.

- **National Building Studies Research Paper No. 18. Investigation on Building Fires, Part 6. The Fire resistance of Reinforced Concrete Columns.** Issued by H.M.S.O. Price 3/-.

The Building Research Station has produced the sixth of the series of reports on fire resistance, and this publication describes an investigation of the relationship between the fire resistance between reinforced concrete columns and the applied load, the concrete strength, the column size and the design of the reinforcement. The paper describes test conditions, the behaviour of various columns under test, and the effects of various factors on the behaviour of the test pieces. The test data and results are given in a comprehensive series of tables and diagrams.

- **The Division of Building Research C.S.I.R.O.** Issued by the Division of Building Research Commonwealth Scientific and Industrial Research Organisation, Graham Road, Highett, S.21., Victoria, Australia. Price unstated.

This publication is the ninth annual report of the Australian Building Research Station and deals with the year ending June 30, 1953. The report shows that the Australian Research Station covers much the same field as its British counterpart and the report deals with such subjects as Clay and Clay Products, Architectural Acoustics, Bituminous Roofing Materials, Thermal Investigations, Lightweight aggregates, Concrete Investigations, etc. The Report is in considerable detail and is illustrated with a number of photographs showing the various experiments in operation, and the work of the station under its normal conditions.

- **Committee on Air Pollution Interim Report.** Issued by H.M.S.O. Price 1/-.

This is the interim report of the Committee on Air Pollution set up by the Minister of Housing and Local Government. It points out that the problem of air pollution and of smoke in particular has been the subject of study and research over a long period. Among the measures taken in recent years to reduce smoke are the development of domestic heating appliances, including improved types of open fire to burn smokeless fuel efficiently and well. The Ministry of Fuel and Power provide a fuel efficiency advisory service to industry as well as special loan facilities to industry for the installation of fuel-saving equipment. Statutory powers to establish smokeless zones have been conferred on a number of local authorities. The Committee emphasize that it must be accepted that complete cure of pollution, if it can be obtained, is bound to take many years, and it is now embarking on a detailed examination of the many practical difficulties involved in further measures. The Committee's report stresses the fact that the largest single producer of smoke is the domestic consumer, and recommends that householders in large towns who normally burn coal, should lay in a stock of coke or other smokeless fuel for use in periods of persistent fog. It is obvious that this problem is not one which can easily be solved and that the villain of the piece is in fact the ordinary household open fire, and until some alternative economic form of heating is devised to replace the open fire for ordinary domestic use, it is unlikely that any very serious improvement in the smoke pollution condition can be achieved. Although factories, office buildings and other large boiler users can do something to help by minimizing their output of smoke, the solution does in fact rest with the user of the domestic fire.

- **The Strength Properties of Timber—Forest Products Research Bulletin No. 28.** Issued by H.M.S.O. Price 2/-.

Laboratory tests of the strengths of native grown and imported softwood and hardwood have been carried out at Princes Risborough for 25 years. The information so obtained is essential to the economic use of wood, and the selection of a species for a particular purpose. This work is particularly important now that new species of tropical hardwood are being imported and brought into use. This Bulletin gives the results of tests of 120 pieces of timber and describes the nature of each test, the procedure used in carrying it out, and gives the results in forms of diagrams, graphs and tables for easy reference.

- **The Strength Properties of Plywood Part I.** Forest Products Research Bulletin No. 29. Comparison of three ply woods of a standard thickness. Issued by H.M.S.O. Price 1/3.

The Forest Products Research Bulletin No. 29 is intended to assist both the manufacturer and the plywood user in estimating the suitability of various types of plywood for constructional purposes. Part I compares the properties of some 24 comparatively unknown timbers. Forest Products Research Laboratory undertook systematic investigation of the timbers which have recently been introduced to the country during the shortage of Douglas fir for plywood. The bulletin describes the methods used to measure the various properties and contains the results obtained from static bending, tension, compression, panel shear and panel impact tests. The results are given in the form of tables and diagrams.

PROFESSIONAL AND TRADE SOCIETY PUBLICATIONS

- **Journal of the Commons, Open Spaces and Footpath Preservations Society.** November 1953. Published by the Society, 71, Eccleston Square, Westminster, S.W.1. Price unstated.

This issue of the Commons, Open Spaces and Footpath Preservations Society's journal, covers the general work of the society, and includes an article on the diversion or extinguishment of public rights of way under the National Parks Act. The maintenance of public footpaths and bridges is the subject of another article, and a survey is included of rights of way in the various counties. Details of membership of the society and list of its major publications are also included.

- **Interim Report 1953.** Issued by the Georgian Group, 27, Grosvenor Place, London, S.W.1.

This report records the annual meeting of the members of the group held in July, and contains notes on the Historic Buildings and Ancient Monuments Act, 1953. Reports are also included of the Society's conference at Cheltenham, together with a list of members as at September 30, 1953, and a list of officers and corresponding members.

- **Journal No. 8.** Issued by the Plymouth Branch of the Devon & Cornwall Society of Architects. 13, Halwell St., Plymouth. Price 1/6.

The contents of this issue include an article entitled "The Altar and People," a survey of their relationship in the Church of England Part 2, 1549-1840, by F. T. Crow. The General Electric Company's new building in Union Street, Plymouth, Architect Sidney R. Edwards, is also reviewed and illustrated with photographs, and an article on the revival of the granite wall gives useful information concerning the proper method of building granite block walls and their finish and treatment.

- **London and Home Counties Regional Advisory Council for Higher Technology.** Bulletin of special courses in higher technology 1953-1954. Free.

This publication gives a list of the various special courses arranged through the Regional Advisory Council for Higher Technology, and covers the important technical schools and colleges in London and the Home Counties. Various special architectural and building courses are listed together with a number of scientific courses.

- **York Civic Trust Academic Development Committee Annual Report 1953.** Free.

This report covers the work of the Committee for 1953, and details courses to be held by the Institute of Architectural Study in 1954. These courses include courses on Protection and Repair of Historic Buildings, The York Summer Schools of Architectural Study, and a course of Public Park and Garden Design. All the Institute's activities are under the supervision of the Director, Dr. W. A. Singleton. Enquiries should be addressed to The Secretary, St. Anthony's Hall, York. Telephone 54711.

- **Timbers for House Building.** Issued by the Timber Development Association, 21, College Hill, London, E.C.4. Free.

This handy booklet lists the wide variety of timbers which is now available for various uses. It includes both hardwoods and softwoods and particular timbers are listed for each purpose, such as ceiling joists, rafters, floor boards, joists, cupboards, gates and fencing, etc. Where necessary the hardwood list has been sub-divided into light timbers that are easy to work and heavier species which are less easy to work and nail. Plywood is included in sections where it is considered suitable, including notes on types of adhesives and species, and the different types of this material are grouped as weatherproof exterior grade and interior grade. This should be a very useful publication and will be valuable both to architects and builders who are considering using some of the lesser known timbers which are now widely available, in many cases at reasonable prices.

- **Review of Productivity in the Furniture Industry.** Issued by the British Productivity Council, 21, Tothill Street, London, S.W.1. Price 2/-.

The latest of the series of the B.P.C. Productivity Reviews

deals with furniture. The advent of television, it states, has proved a threat to the industry since television sets have often been bought instead of new armchairs. This threat may prove a temporary one for the television set encourages more staying at home which will undoubtedly cause more attention to be given to the furniture of the house. The report recommends that more consideration should be given to good design and that the question of design should be more closely related to the methods of manufacture. It is also suggested that improved methods of manufacture should be considered and that the example of the aircraft industry and similar industries should be studied. If this report is noted by the industry and its lessons learned then we can expect to see good contemporary furniture at reasonable prices available more generally than at present.

● Warmer Homes with Solid Fuel. Issued by the Coal Utilization Council, 3, Upper Belgrave Street, London, S.W.1. Free.

This booklet has been produced primarily for the guidance of local authorities, architects and others concerned with the construction of new houses. It is intended to show that new houses can be efficiently and economically heated by solid fuel in modern appliances, especially when the house is properly planned and effectively insulated. Different types of modern domestic appliances are illustrated in their household settings, and these appliances are divided into six main types, open fires, heating stoves, free-standing cookers, combination grates, back-to-back grates and independent boilers. The functions of modern appliances are described and the recommended application of each one is indicated. Eleven isometric house plans are given in diagrammatic form showing how houses can be built around the heating system, and how different systems and appliances can be incorporated to provide a variety of heating services. The booklet also stresses the importance of compact house planning as a way of conserving heat and deals with the essential features of insulation. One of the most useful sections is the chapter containing eleven large illustrations showing the methods by which the different appliances and their flues are built into the house structure. This particular section should be of considerable assistance to the average builder and the foreman on the site.

● Reinforced Concrete Review. Issued by the Reinforced Concrete Association, 94-98, Petty France, London, S.W.1. Price 5/-.

Volume 3, No. 3, 1953, covers a wide range of subjects, including an article by D. H. New on "Further Developments in Prestressed Concrete," the article being a paper presented at a meeting of the Reinforced Concrete Association in London on March 18, 1953. The article is illustrated by a number of interesting photographs and shows the rapid strides which the prestressed concrete industry has made of recent years. Other papers include one on a "Gas holder foundation tank, Bristol," a paper on the need for training in concrete technology, and one on ultimate load design.

● Mastic Asphalte Flooring and Paving. Issued by the Natural Asphalte Miners Manufacturers Council, 94-98, Petty France, London, S.W.1. Free.

This is the third booklet of the series "Application of Mastic Asphalte," and is available free of charge on application. It deals with the subject of mastic asphalte for flooring and paving, describing the method of application, giving excellent drawings showing the detail arrangements required for receiving mastic asphalte in various positions, with detailed drawings of such points as the junction of asphalte flooring with channels and outlets for a pithead bath. The illustrations are well reproduced and include a large number of excellent photographs showing the application of mastic asphalte for flooring in a very wide variety of buildings from schools to heavy industrial buildings. This publication will be useful to builders, general foremen and architectural students. It should also be considered as a useful reference for the architect's office.

● Popular booklet on insulation. Produced by Solid Fuel, Gas and Electricity Industries, Circulated by the Domestic Insulation Committee, 3, Upper Belgrave St., S.W.1. Free.

This leaflet is a popular publication for the average house-

holder, encouraging him to make his house warmer in winter, and is distributed through gas, electricity and other similar showrooms. The booklet describes by means of sketches and simple notes how the average house could be made draught-proof and warmer by simple methods of insulating the roof, stopping draughts beneath doors and around windows, lagging pipes, tanks and cylinders, and other simple means. The illustrations are in the form of humorous sketches and the text is such as will appeal to the general public. If the advice given is followed it should lead to warmer home conditions and a saving in fuel.

● The Association of Vermiculite Exfoliators. Issued by the Association, Plantation House, London, E.C.3. Free.

This booklet describes Vermiculite as a material and gives details of its use as a loose fill and as a roof and floor screed. Illustrations in the form of photographs show building blocks made of Vermiculite, screed being applied to factory roofs and barrel roofs, and the use of Vermiculite for floor screeds and for Vermiculite plaster. Laying instructions are given for the site fixing and application of Vermiculite concrete, details are given of Vermiculite plaster, and a list of members of the Association is also included.

● Rubber in Building. Issued by the British Rubber Development Board, Market Buildings, Mark Lane, London, E.C.3. Free.

Four new brochures in the technical series of the British Rubber Development Board have recently been published, devoted to the uses of rubber in building, they are as follows: Natural Rubber Latex Cement Compositions in building, Acoustics, sound insulation, anti-vibration and thermal insulation, Paints incorporating natural rubber, Rubber based adhesives. These publications are all well produced, illustrated by excellent photographs and complete with a bibliography. Much careful thought has been put into the preparation of these brochures, and they will undoubtedly be of considerable interest to both architects and students who are considering the use of rubber or rubber products for the particular purposes mentioned in the titles of the publication.

● Zinc Bulletin No. II. Issued by the Zinc Development Association, Lincoln House, Turl Street, Oxford. Free.

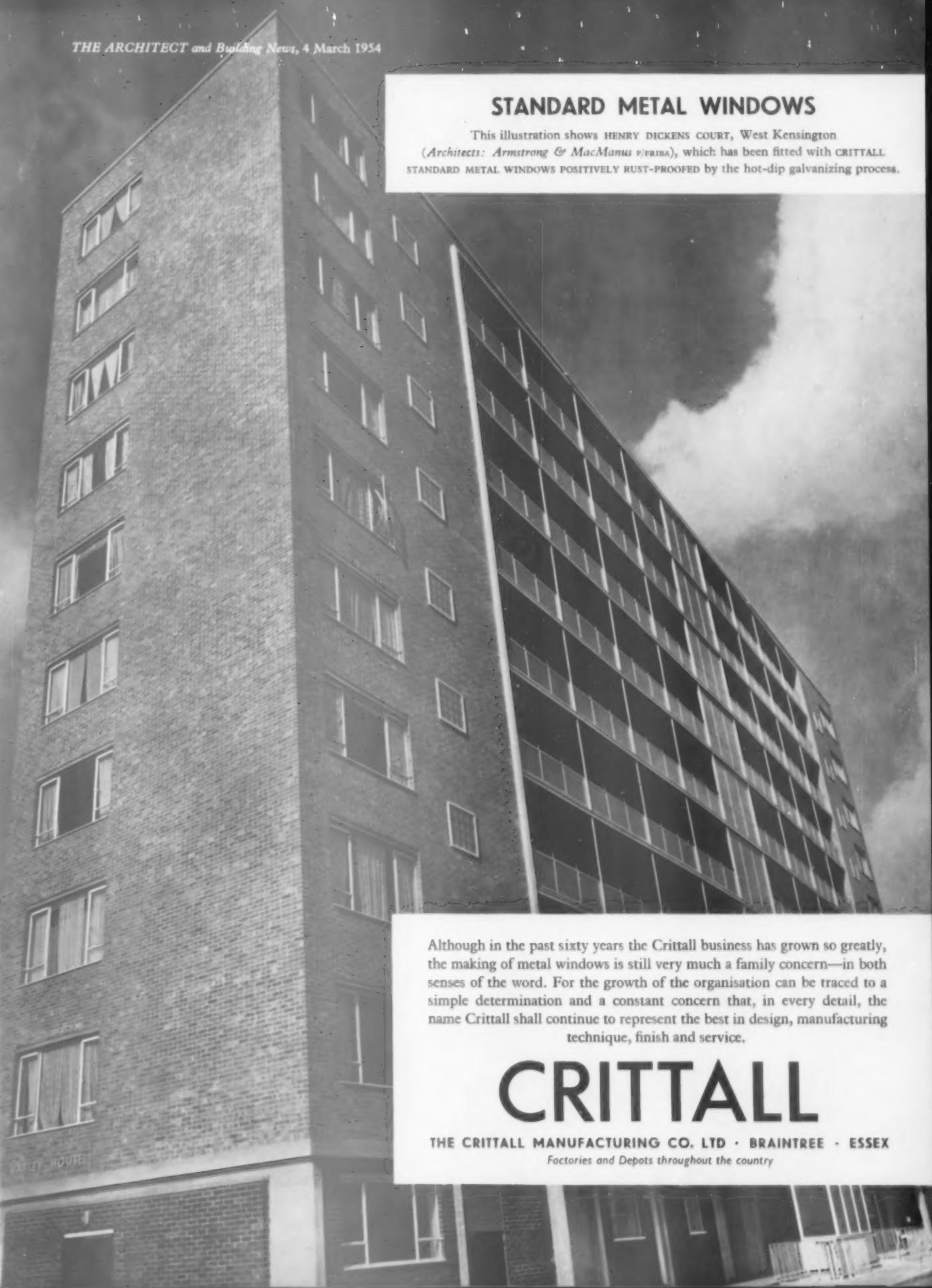
This issue of the Z.D.A. Bulletin includes an article by R. Fitzmaurice on the subject of gutters and rainwater pipes. It is a thorough article such as one expects from the author, who was formally assistant director of the B.R.S. and later Director of Research, Ministry of Works. The question of roof drainage is one which does require considerable study as it is quite likely that the present practice is in fact over generous in the provision of both gutters and rainwater pipes. The article gives a series of tables showing the minimum sizes of eaves and box gutters, and rainwater pipes, for various roof areas. Other articles include one on the use of Zinc in the rebuilding of Brest, and the usual Z.D.A. Information Sheet No. 11, dealing with Zinc Roofing to Bay Windows.

● Fully supported aluminium roof covering. Issued by the Aluminium Development Association, 33, Grosvenor Street, London, W.1. Price 2/6.

Until recently very little aluminium roof covering had been carried out in this country, and therefore this publication will be of interest to architects who are considering the use of aluminium for roofing purposes. The booklet gives a considerable amount of detail concerning the method of fixing aluminium sheet, the appropriate background material, the method of jointing, and information concerning details of gutters, and other important points of detail which need special consideration. The appendix deals with allowances of dimensions and a definition of terms, together with physical properties of aluminium, recommended sheet sizes and weights and thicknesses. While this publication does appear to be quite a useful one, one wonders why it should be necessary for a development association of this sort to charge 2s 6d for a comparatively slender volume, when other associations of a similar nature issue a great deal of material free of charge.

STANDARD METAL WINDOWS

This illustration shows HENRY DICKENS COURT, West Kensington (Architects: Armstrong & MacManus F.R.I.B.A.), which has been fitted with CRITTALL STANDARD METAL WINDOWS POSITIVELY RUST-PROOFED by the hot-dip galvanizing process.



Although in the past sixty years the Crittall business has grown so greatly, the making of metal windows is still very much a family concern—in both senses of the word. For the growth of the organisation can be traced to a simple determination and a constant concern that, in every detail, the name Crittall shall continue to represent the best in design, manufacturing technique, finish and service.

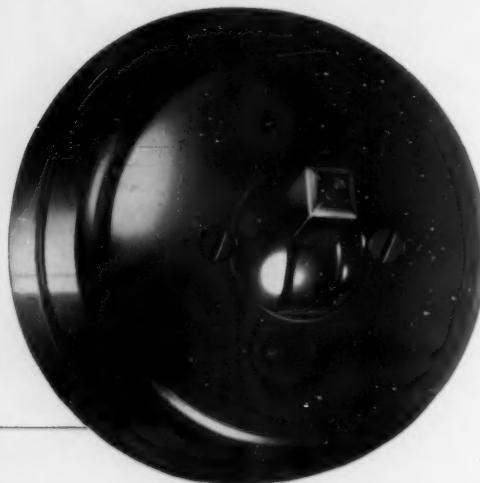
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ALL CONTACT FACES ARE SILVER

SHORT BREAK-BUTT CONTACTS—
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Flush types include

1 & 2 Gang vertical & horizontal plates.
1 & 2 Gang plaster depth boxes.
Switches for B.S. 1299 boxes.
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Provision for switch depth adjustment is incorporated in plaster depth boxes.



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The diameter of the base of the surface switch is 2½" and the overall height only 1½" (to top of dolly). Switch fixing centres are 1½". Flush 1 Gang plates 3½" square.

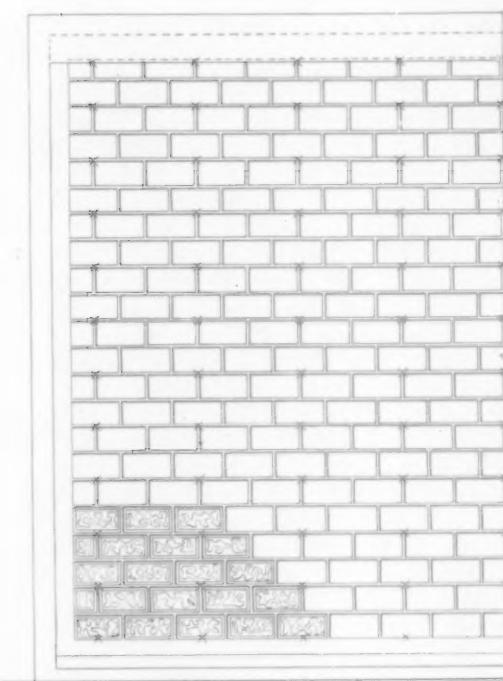
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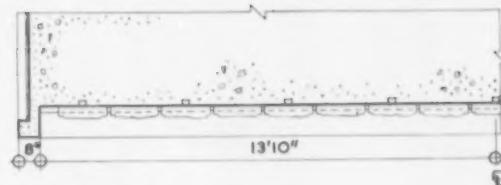
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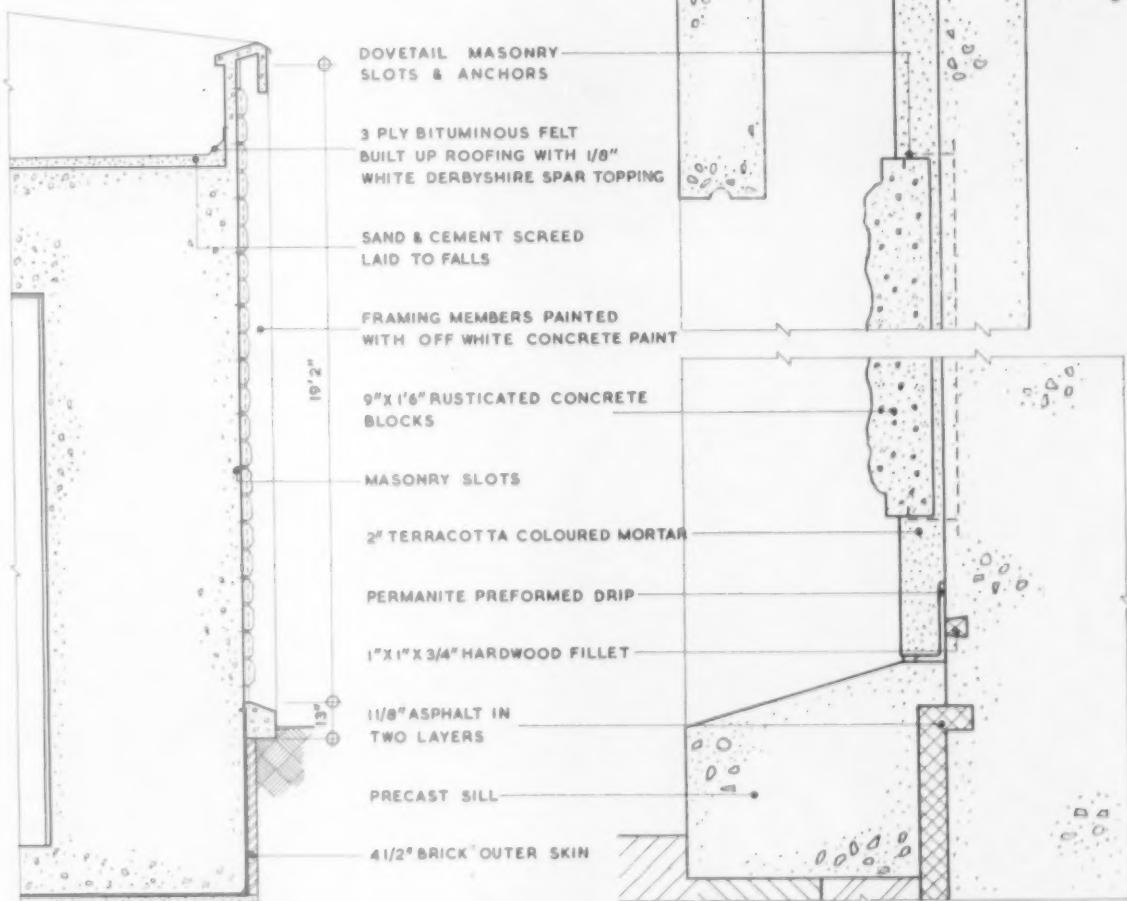
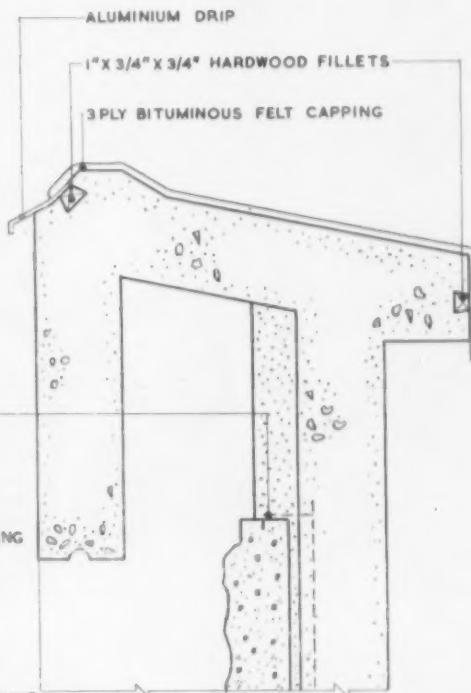
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HALF ELEVATION



HALF PLAN

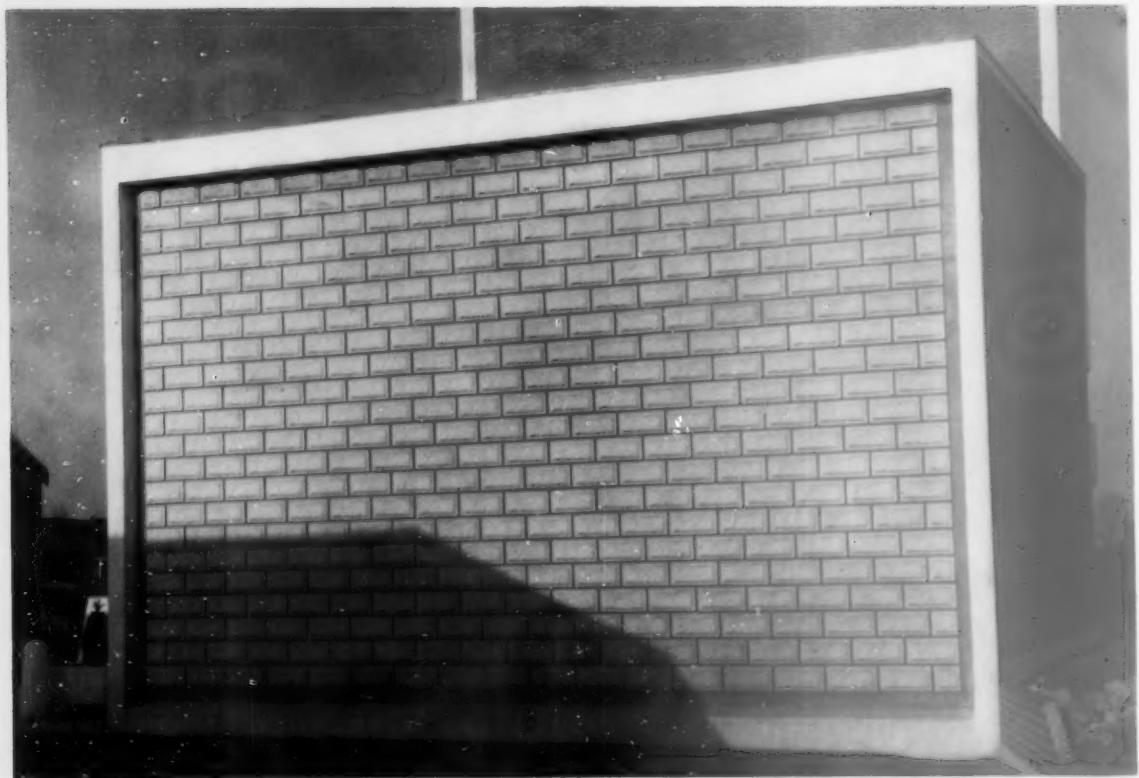


SECTION

DETAIL OF CAPPING & PLINTH

SCALES 1/4"=1'0" & 1 1/2"=1'0"





WALL FINISH, LINEAR ACCELERATOR BLOCK, HAMMERSMITH HOSP.
ARCHITECTS: RAMSEY, MURRAY & WHITE



Classroom wing, prototype school at Rochester

Prefabricated Timber Schools

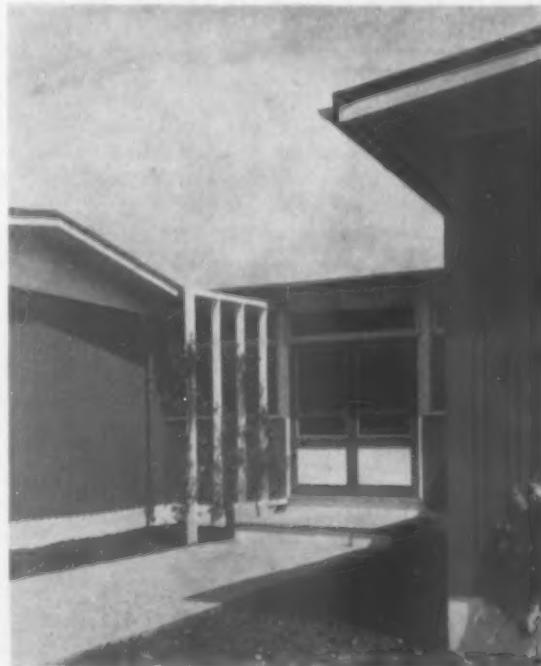
consultant architect: RAGLAN SQUIRE, F.R.I.B.A., M.S.I.A.

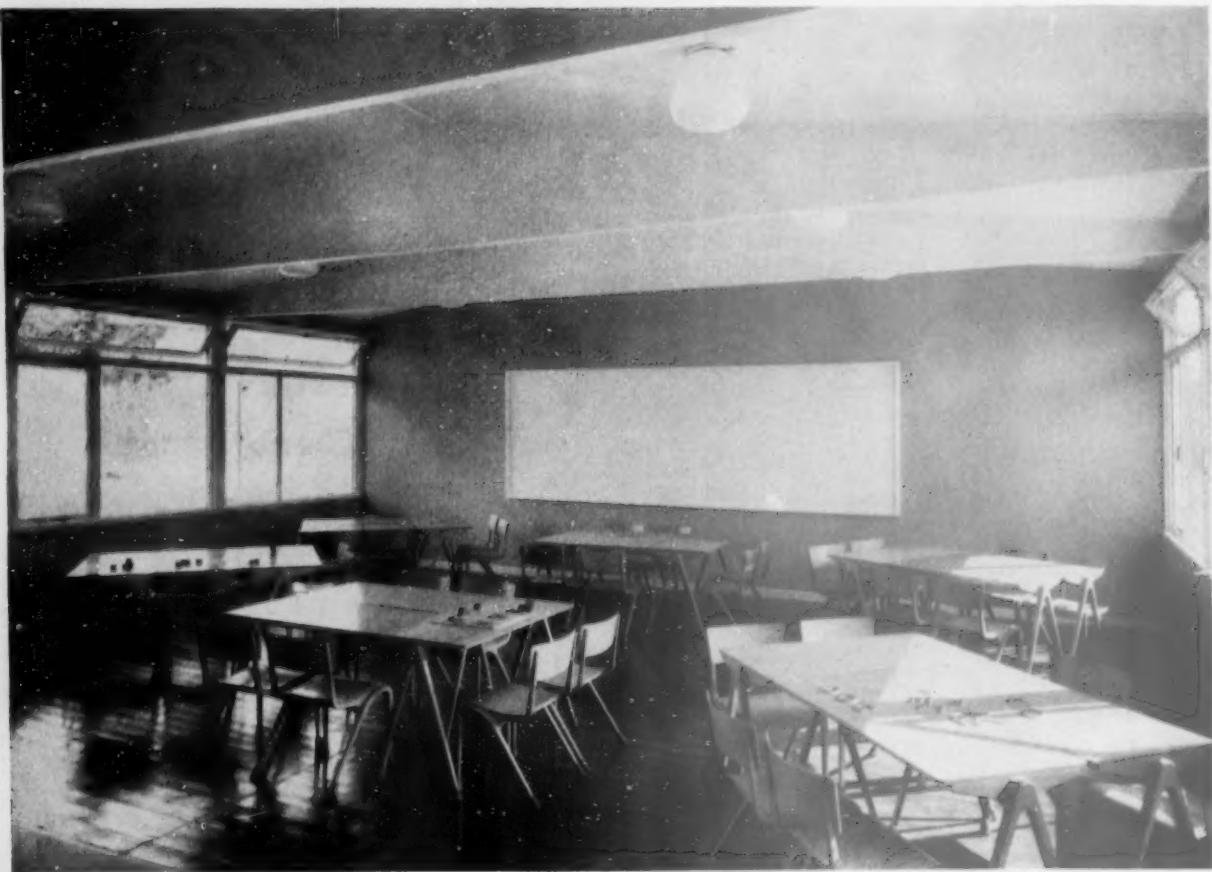
Main entrance, Rochester

MEDWAY Buildings and Supplies Ltd., have been manufacturing factory-made timber units for a number of years. The latest development, the Mark IV system for schools, has made headway in the last year. Twelve schools have been erected and occupied and between forty and fifty either planned or under construction. The claim is made that the cost of these schools has worked out at 45s a sq ft which can be compared with a figure around 60s to 65s a sq ft for traditional methods of construction.

There is a saving in the time taken for erecting the prefabricated units, and two schools of 550 places each which were erected in Harlow New Town last year, took about nine months to build.

The Mark IV is a unit system of construction based on a 6ft module in which wall, floor, roof and partition panels are prefabricated from imported softwood. The system offers basic roof spans of 6ft, 12ft, 24ft and their multiples, the 24ft span having a low pitched roof, the remaining spans a flat roof. Classrooms employ 24ft span units with low-pitched plywood boxed-beams exposed at 6ft centres. The flat roof spans of 6ft and 12ft and their multiples are normally used for cloakrooms, lavatories, administration





General view of a typical classroom showing the exposed plywood box-beams and generously glazed side panels. The junction of the 12ft by 6ft floor units can also be seen.

T I M B E R S C H O O L S

rooms, etc. Curved "Perspex" roof lights are provided for use on both flat and pitched roofs, the lights open to give cross ventilation. Ceiling heights average 9ft 4in in classrooms and are 8ft 6in elsewhere.

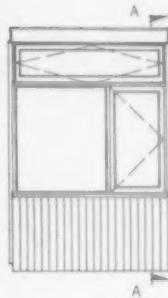
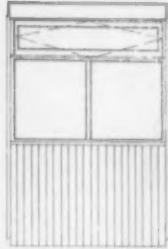
External wall sections are clad with moulded vertical timber boarding. Window sections for classrooms have large picture windows, whilst ample ventilation is provided by side hung casements or pivot hung sashes above. Window sections for remaining areas have fixed or side hung casements with the pivot hung sashes above.

Wall panels and structural partitions 8ft 6in high are normally 6ft wide but are also made 5ft 9in wide for use with a 3in post at corners and changes of direction. Non-Structural partitions are made 7ft 9in and 8ft high for fitting beneath different beams and are used between beams with various heights of infilling panel. The roof panels incorporate a soffit.

The plain wall sections are built up with 3in by 2in framing reinforced with studs and clad externally with vertical tongued-and-grooved boards backed with building



An exploded isometric drawing illustrating the constructional system. The units are all related to a 6ft by 6ft planning grid.



SCALE: 6ft to 1in

paper. Internal linings, $\frac{1}{2}$ in aluminium-foil-backed plaster board, are fixed on site. The glazed panels are in two types, classroom windows and corridor windows and there is an external door panel with a pair of glazed doors.

24ft span buildings are roofed with prefabricated panels approximately 6ft x 6ft of $\frac{1}{2}$ in T. & G. boarding on 3in x $1\frac{1}{2}$ in joists, supported on low-pitched phenolic-resin glued box beams at 6ft centres. 6ft and 12ft span units are roofed with identical panels supported on solid timber beams at 6ft centres. The roof panels are designed to carry a covering of multiple felt and bitumen compound. The roof panels may have a 3ft by 4ft roof light covered with $3/16$ in curved opal Perspex which is openable for ventilation.

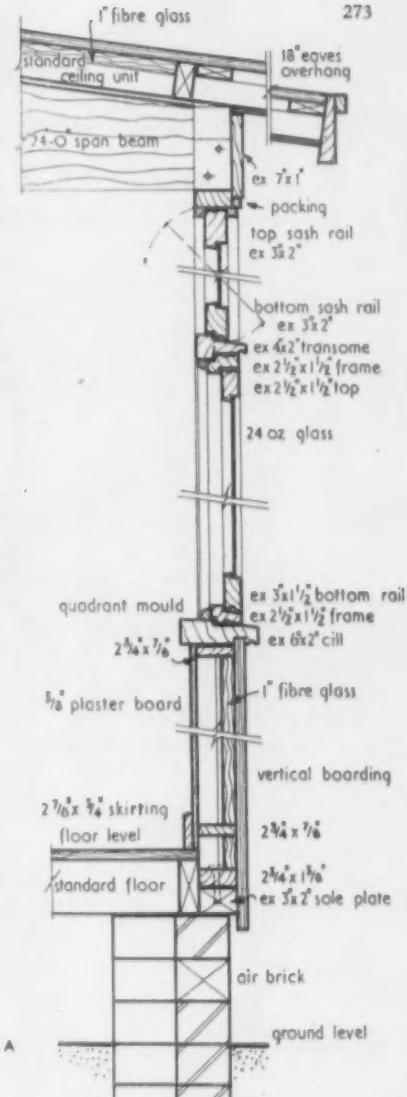
Ceilings are made of plaster board with aluminium-foil backing, which are fixed on site.

Structural partitions are in 3in by 2in framing, and non-structural in $2\frac{1}{2}$ in by 1 $\frac{1}{2}$ in, both are braced with studs and rails and designed to be covered with plaster board after erection.

Timber or solid floors may be used, the timber units are in 6ft and 12ft lengths using 4in by 1 $\frac{1}{2}$ in joists at 18in centres, with $\frac{1}{2}$ in T. & G. flooring.

Insulation

The Thermal insulation values are ; timber cladding, $U = 0.236$, roof panel, $U = 0.231$; with the addition of a glass wool quilt these figures become 0.117 and 0.112 respectively. The standard internal partition gives a sound insulation figure of 35 decibels, with the addition of an eel-grass quilt this becomes 50 decibels.



SECTION A-A

Top left: Elevations of the three glazed wall units, the first used for corridors, cloakrooms, etc., the second, a double door unit and the third the classroom wall and window unit. Section A-A through this unit is shown on the right. Scale: one foot to one inch.
Below: the appearance of the different cill heights can be compared—on the left a typical corridor with the usual flat roof and on the right a standard classroom with pitched roof and lower cill height.



A twelve foot long Tropdek unit being placed in position as a roofing member.



Tropdek

Structural

Systems

A STANDARD factory-produced unit for the construction of floors or walls or roofs is the basis of a new structural system which is now available in this country. With this system, framework or subsidiary structures may be either completely eliminated or reduced to a few simple elements.

The system, for which a number of patents are pending, was invented by W. H. Willatts and A. H. Cornwall, partners of W. H. Willatts and Associates. Under the name "Tropdek Structural Systems," the units, known as Tropdek Units, will be manufactured and marketed in the United Kingdom by H. Newsum Sons & Co. Ltd. of Lincoln.

The elements of this system are standard units made of plywood and light timber sections formed in a series of troughs, and dimensioned according to loading requirements for given spans. Extensive development work has been completed and has resulted in a product which, using the new developments in timber engineering, has made quantity production of these units possible and economical.

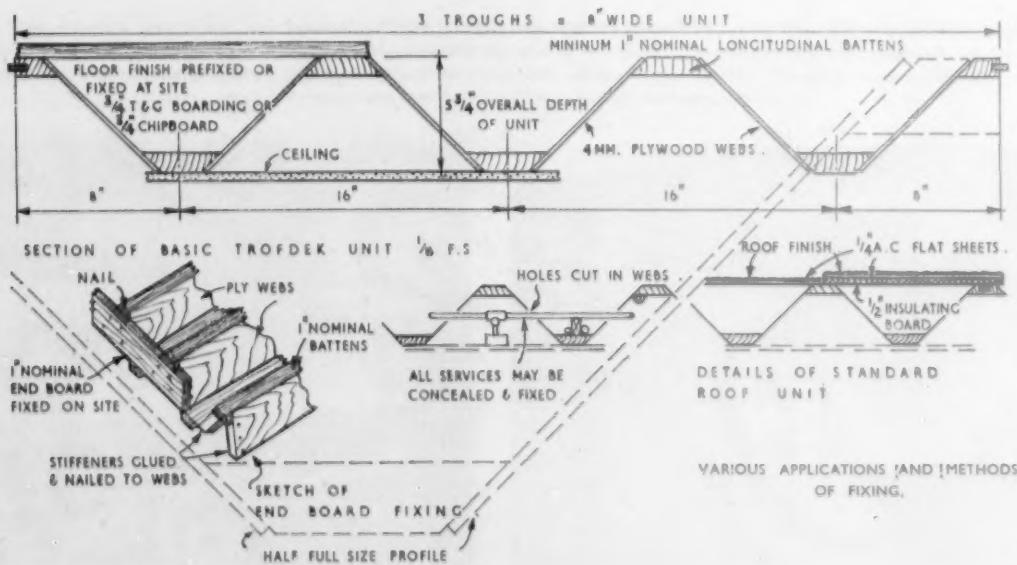
Of particular interest is the remarkable low self-weight

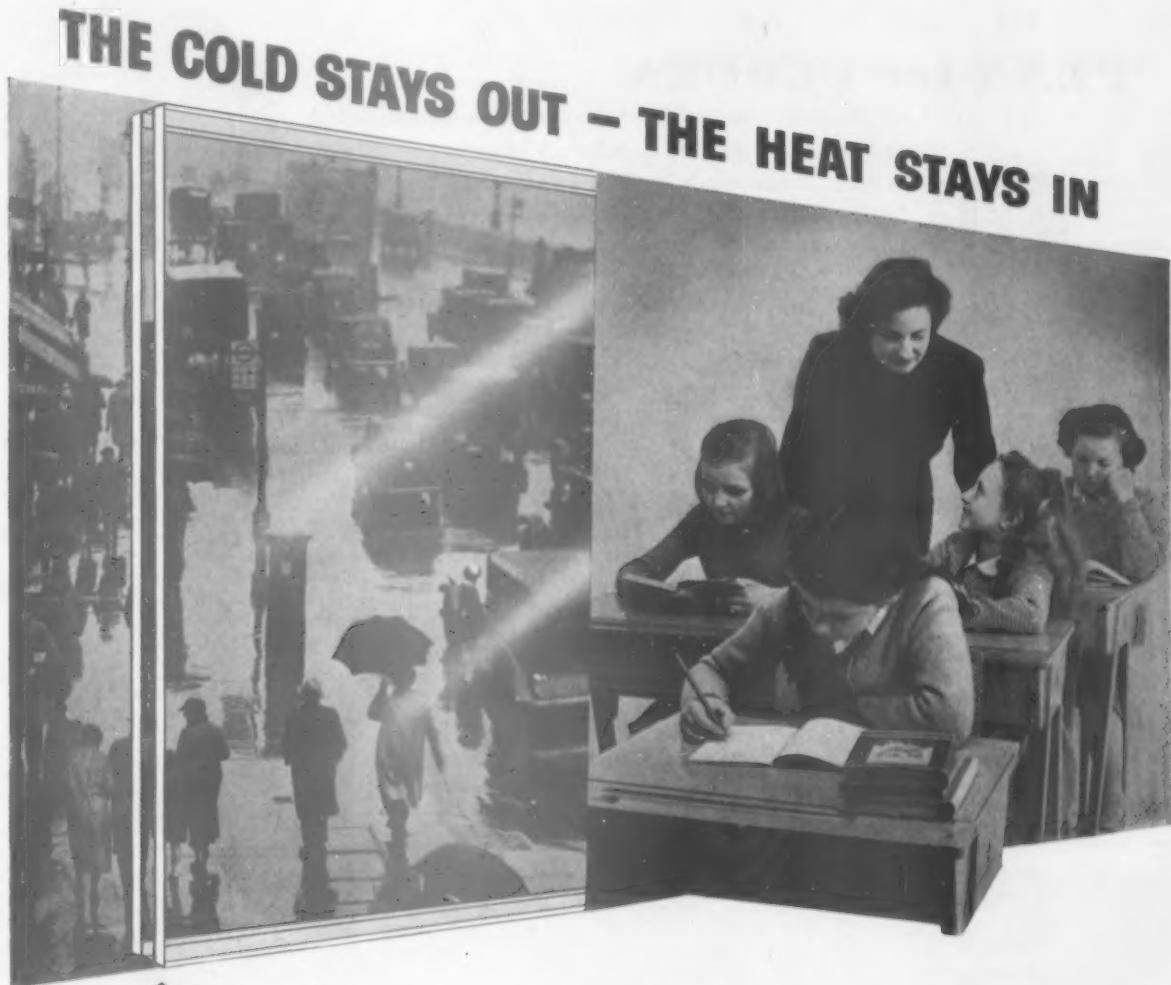
of these units. They weigh less than 2lb per sq ft but can be loaded with over 300lb per sq ft over 12ft spans before failure occurs. Although the units are extremely light, they are perfectly rigid, so that units of 100 sq ft or more can be easily handled.

Another feature, in line with the present trend towards modular co-ordination, is the adaptability of the unit's width to various modules such as 2ft, 40in, 4ft, 8ft and 10ft, so that the system can be incorporated in existing plans or schemes without basic alterations.

The same type of unit is used for floors, walls and roofs, the widths have been standardized in multiples of 8in and the length is governed by the requirements of the user. The depth of the units varies according to span and load, normally it is 1/24th of the span. The standard section is 5 3/4in deep and weighs 1.7 lb sq ft. All materials are selected and graded according to B.S. C.P.112 and 1860 for softwoods and B.S.1455 for plywood.

About twenty-five schools have been designed including this structural system in one way or another, containing in all about 50,000 sq yards.





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Consult the Technical Sales and Service Department at St. Helens, Lancs., or Selwyn House, Cleveland Row, St. James's, London, S.W.1. Telephones: St. Helens 4001; Whitehall 5672-6. Supplies are available through the usual trade channels. "INSULIGHT" is the British registered trade mark of Pilkington Brothers Ltd.

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SPECIAL NOTE

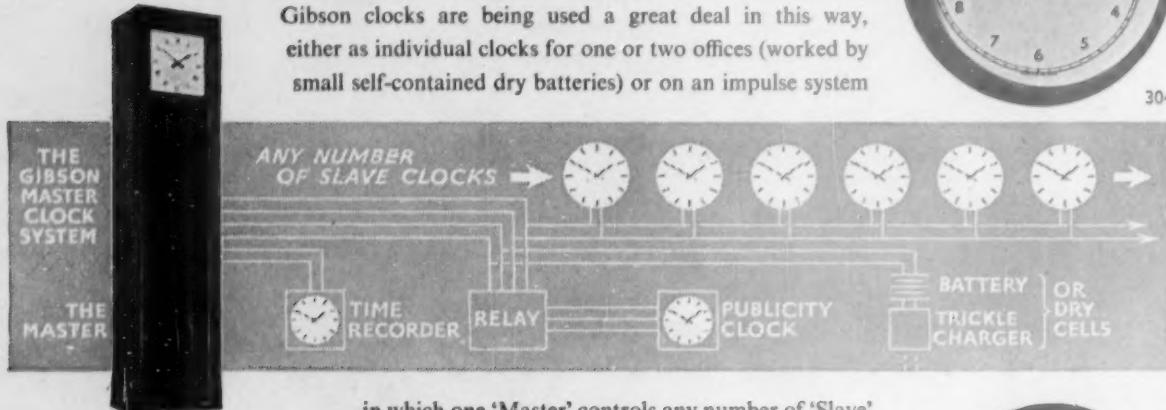
Make sure that your frames are of sufficient width. Details can readily be obtained from Pilkington Brothers Ltd., or your window frame manufacturer.

"INSULIGHT" Double-Glazing Units are relatively less expensive when bought in large pane sizes.



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MESSAGE FROM THE NEW PRESIDENT OF THE INCORPORATED ASSN. OF ARCHITECTS AND SURVEYORS
LIEUT.-COL. A. E. HENSON, F.R.I.B.A., F.I.A.A.S., A.I.Struct.E.

I AM proud to be of service to the Association because I believe that now, perhaps more than ever before, it has a part to play in the advancement of the professions of architecture and surveying. Furthermore, the Association is now better equipped to play its part than at any time in the past. Since I joined the I.A.A.S. as a founder member in 1926, the professions connected with building have endured great vicissitudes, and even to-day architects and surveyors lack that measure of public acceptance and recognition that is accorded to many other professions. The incidence of war, threats of war and the aftermath of war are no doubt in part accountable for this. But not wholly. The responsibility in some degree is our own. We have not succeeded in impressing upon the public imagination the importance of our work—its value to the community both in physical well-being and in its contribution to our national prestige and greatness. Speaking as an architect, I am convinced that this is partly because we have not sufficiently protected our own interests. We have not been strong enough or united enough to resist encroachments upon our independence, either as private practitioners or as salaried officials. We have not made our voice heard in Councils of State when building matters were at issue. Neither have we been vigorous in opposing at their outset practices and tendencies—too many to enumerate—that were manifestly injurious to the cause of architecture and building in general.

It is, I believe, one of the main functions of the I.A.A.S. to develop and extend the protective side of its activities as a complement to the more academic preoccupations of the older professional bodies, whose prerogatives we fully respect and have no desire at all to usurp. We seek to collaborate with all accredited bodies in establishing conditions in which a truly contemporary architecture may flourish. We on our side, however, expect, and have a right to expect, the recognition that is due to a professional body of nearly thirty years' standing which has included in its membership many eminent architects and distinguished surveyors whose work speaks for itself.

This expectation on our part is not confined to professional bodies; it applies equally to Government departments. In the past two years the Association has made great strides in obtaining recognition of its surveying examinations, and let me assure all who read this that we intend to secure recognition for our architectural examinations as well. The Association realizes that the time has come when entrance to the professions must be by examination only. Nevertheless, we all know architects and surveyors—men who are now pre-eminent members of the senior bodies—who qualified under the older dispensation. To pretend to deplore a system which, if now obsolescent, has served well in its time savours to me of hypocrisy. Equally, it is against the public interest for Government departments and other authorities to refuse engagement or promotion or commissions to a man with a good record of achievement simply because he has not passed through the examination room. Let us never forget that in the long run it is by his work that a man is known and to be judged.

As I see it, the architectural profession, and some branches of the surveying profession too, are suffering from an entirely artificial division between the private and the official practitioner. The latter class has grown enormously since 1939. Many have elected to join it, but others have been forced into it by the dearth of private work. Salary scales and working conditions are alike unsatisfactory, and the I.A.A.S. is lending its full support to proposals which we hope will produce a rectification of this state of affairs. In private practice a few large offices have a steady flow of work, but the majority—especially of architects—depend on sporadic commissions which make the maintenance of assistants and economic office management difficult propositions. The smaller practitioner and young men starting on

their own account run into especial hardships, for they often have to encounter competition from unqualified persons who are permitted to advertise their services, and sometimes, I fear, from employees in local government who undertake commissions at cut rates. I would like to see a numerical balance agreed and maintained between private and official practitioners. I am convinced, in any case, that an adequately patronized quota of private practitioners is to the advantage of the whole of the professions.

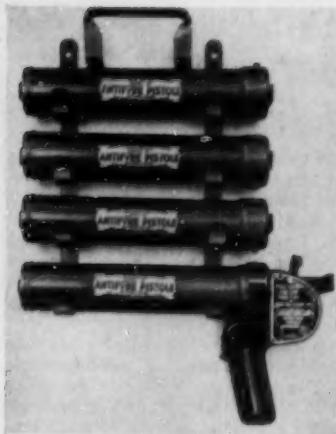
If I have dwelt on the conditions of contemporary practice rather than on questions of architectural style and quality, it is because I am sure that we shall never get the great architecture we are capable of producing unless conditions are reasonably favourable. The architect and his professional colleagues in building need the compliment that is accorded to other professions of being accepted as authorities in their own field. We are not so silly as to expect absolute autonomy, but we say to our clients, be they private owners, Government departments or local authorities: "Tell us your physical requirements for the building, and the amount we may spend; then forget any preconceptions you may have about elevations and so forth. Leave it to us to work out designs in accordance with the purpose of the building, its situation, its orientation, its relation to its neighbours and the materials of its construction. What we shall present to you will not be a slavish copy of a past style nor a straining after modernity; we shall present a new creation that will be self-explanatory and, we hope, self-justificatory." Only by such trust and confidence will Britain get the contemporary architecture she needs and deserves. In this connection, I was greatly heartened—as I am sure were most architects—by Sir David Eccles's recent speech on the rebuilding of the City of London. It gave us a lead that we have very long awaited.

I believe that, given peace, we are on the threshold of a great revival in building, one that could develop into our greatest architectural era. We have the architects, the surveyors and the engineers and we have a building industry that could become second to none in the world. But we must get together, the architect remembering always that he is one of a team, and work together for greater efficiency and lower costs. With co-operation and goodwill we could meet the challenge of the new Elizabethan Age. This is no time for bickerings or petty rivalries. Architecture is greater than any individual architect or any professional body. Let us combine in its service, each contributing what he is able. To members of the Association, I pledge my word that I will do all that lies in my power to ensure that the Association takes its rightful place and plays its rightful part. Let us then go forward with enmity to none, but with a bold conviction that we have a contribution to make to our professions, and through them to the community and the age in which we live.

* * *

A review of the building programme of the Kent County Council has been prepared by the Kent County Architect, Mr. Sidney Loweth, F.S.A., F.R.I.B.A., who retires at the end of March. The report says that for every £100 paid for building before the war, it now costs, owing to constantly rising prices, about £370. During the last five years, Kent has been turning out, on an average, one new school every 3½ weeks and one new police house (for the Kent Police Authority) every 2½ days, besides new additions to, and the remodelling of, existing schools, the erection of new canteens, huts, new police and fire stations and houses, old people's homes and the execution of numerous war damage repairs, etc. To date, nearly 50,000 new school places have been provided since the war. The report recalls that Kent was the first county to take steps to circumvent the operation of building price rings into which the Monopolies Commission is at present enquiring.

MOSAICS



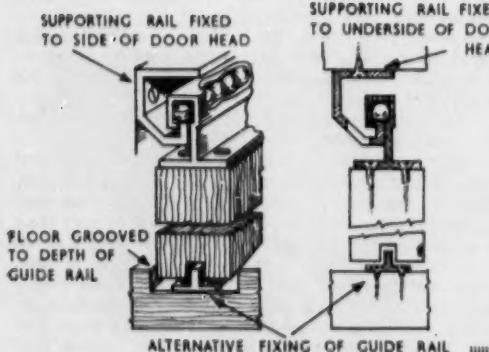
PLANT MISCELLANEOUS E14/4

The Antifire pistol, made by Antifire Ltd., Shaftesbury Road, Acton, W.3, is illustrated here mounted on a wall bracket with four cartridges. The performance of this extinguisher is very impressive, it employs three principles in one in dealing with fire, deoxygenation, blanketing and beating. The powder used is completely harmless and the gun can be operated by anyone. All charges used on emergency fires are replaced free. Cost as illustrated, 99/- There are many variations.



SERVICES ELECTRICAL ACCESSORIES B5/38

Among the recent additions of the Durpalug range of unbreakable rubber plugs and sockets is this Junction Box. Manufactured by W. W. Haffenden Ltd., Rotherham, Kent, it has two main terminals for phase and neutral, and eight terminals for switch line connections. There are 18 possible entries at the sides of the box, four or five a side. Cost 12/6. Other additions to the range are a 13-amp 3-pin fused plug, a 5-amp panel mounting plug and a 5-amp cable coupler socket cover.



STRUCTURE DOORS AII/12

The Allday overhead, rustless, ball-bearing door system is made of drawn aluminium sections and steel ball-bearings. Made by D. G. Allday & Co. Ltd., 1 Northwood Street, Birmingham. It can be supplied with either single (as illustrated) or double tracks. Variations in fixing are shown and the system is claimed to be exceptionally silent in action.



SERVICES LIGHT FITTINGS BI/78

A 5ft flameproof fluorescent light fitting introduced by The General Electric Co. Ltd., Magnet House, Kingway, W.C.2, has a high safety margin. This fitting can be used for any situation covered by Groups I and II of the Flameproof Regulations, such as paint spraying shops in the cellulose industries, oil refineries, garages, aircraft hangars, amyl-acetate works, filter processing laboratories and plants using octene or butane gases will also find the fitting meets their needs. Maintenance is simple. Relamping can be done from one end by slackening off a single captive bolt, twisting and sliding the glass tube which encloses the fluorescent tube and lowering off the relamping position, as illustrated.

All external aluminium parts are finished with a pretreatment primer and stove enamelled. Stove-enamelled steel reflectors are available if required.

INDUSTRIAL NOTES

● The report on the valves industry, recently published by the British Productivity Council, shows the output from the industry's 200 firms is five times as much as it was in 1946. The annual output is now valued at more than £26,000,000.

Messrs. Conex Terna, Ltd., Tipton, is one of the firms singled out for special mention in its successful stepping-up of production by many hundreds per cent each working week. This increased productivity has been achieved largely by concentration on a selected range of valves, coupled with the introduction of automatic machines, which in the main have been adapted by the firm to suit its own production methods and designs.

● Mr. Murray D. Scott has retired from active management of Marryat & Scott, Ltd., lift manufacturers, Hounslow, after 34 years but remains as chairman of the company.

Mr. L. W. Honey, Assoc. I.E.E. and Mr. L. J. Gooch, A.M.I.E.E., are appointed joint managing directors of Marryat & Scott, Ltd. Mr. Honey will operate from Hounslow Works and Mr. Gooch from the London Office at 40, Hatton Garden, E.C.1.

● Gamack Browne, Ltd., designers and manufacturers of Plannair Air Conditioning equipment, have changed their name to "Plannair Limited," and have changed their office address from 140, Park Lane, W.1, to Windfield House, Epsom Road, Leatherhead, Surrey (Tel: Leatherhead 3013).

● Messrs. Evode, Ltd., makers of waterproofing and protective compounds, adhesives and paints have opened new offices at 1, Victoria St., London, S.W.1. The firm is also erecting a factory and laboratory at Stafford to accommodate increasing export activities.

Mr. James Leah, formerly senior sales representative in Lancashire, has been appointed manager of the northern sales area by Celotex Limited, the makers of insulating building boards.

● Mr. A. A. Cross has succeeded Mr. T. C. Hale at plant manager of the Harts Lane, Barking, factory of The Cape Asbestos Company. Mr. Hale was recently elected to the board of the company as director (Technical) and he is now at the company's head office at 114, Park Street, London, W.1.

For the past 4½ years Mr. Cross has been plant manager of Acre Mill, the company's factory at Hebden Bridge, Yorkshire.

● It is announced that the Institution of Standard Wood Casement Windows is soon to be issued. Copies will be available for all members of the Association and will be circulated to local authorities and architects.

● The printed specification for E.J.M.A. Industrial Safety Officers has been formed. The Institution has a founder membership of 500 executive grade persons engaged in accident prevention in industry. For the past eight years activities similar to those of this new and separate body have been conducted as a Section of The Royal Society for the Prevention of Accidents.

Individuals interested in the prevention of industrial accidents are invited to address enquiries to the Institution's office at 52, Grosvenor Gardens, London, S.W.1.

Notes below give basic data of contracts open under locality and authority which are in bold type. References indicate: (a) type of work, (b) address for application. Where no town is stated in the

CONTRACT NEWS

address it is the same as the locality given in the heading, (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked ★ are given in the advertisement section.

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OPEN BUILDING

AYLESBURY R.C. (a) 8 houses at Chilton; 24 houses at Haddenham. (b) Council's Architect, 4, Temple Square. (c) 3gns. (e) March 16.

BASINGSTOKE B.C. (a) 18 dwellings, South Ham Housing Estate. (b) Borough Architect, Municipal Buildings. (c) 2gns.

BERKSHIRE C.C. (a) New junior and infants' schools, Sandy Lane, Bracknell. (b) County Architect, Wilton House, Parkside Road, Reading. (c) 2gns. (e) March 22.

BIRMINGHAM C.C. (a) 145 2- and 3-storey dwellings, Welsh House Farm, Harborne. (b) City Architect, Civic Centre, 1. (c) 2gns. (d) March 8. (e) April 7.

BOURNEMOUTH B.C. (a) 46 houses and bungalows, West Howe Estate. (b) Borough Architect, Town Hall. (c) 2gns. (e) March 16.

BUCKS C.C. (a) Extensions at Boys' Grammar School, Lascelles Road, Slough. (b) County Architect, County Offices, Aylesbury. (c) 2gns. (d) March 15. (e) March 26.

CALNE AND CHIPPENHAM R.C. (a) 6 houses, construction of a pull-in, 100yds sewer in road and ancillary site works, etc., at Ditteridge, Box. (b) Messrs. Edwards and Webster, 10, St. Mary Street, Chippenham, Wilts. (c) 2gns. (e) March 18.

CANTERBURY C.C. (a) Houses and maisonettes. (b) City Architect, Municipal Buildings. (c) 2gns.

CARDIFF C.C. (a) Erection of dwellings as follows at Llanrumney: Contract 1, 31 houses and bungalows; 2, 17 houses and flats; 3, 30 houses; 4, 46 houses; and 5, 69 houses, flats and bungalows. (b) City Surveyor, City Hall. (c) 2gns. (e) March 13.

CROYDON B.C. (a) Pair of houses, Davidson Road. (b) Borough Engineer, Town Hall, Katherine Street; immediately.

EIRE—CAVAN C.C. (a) 12 houses with site works, etc., Ballyjamesduff. (b) County Secretary, Courthouse, Cavan. (c) 10gns. (e) March 15.

EIRE—CAVAN C.C. (a) Erection of rural cottages as follows (tenders for 1 or more cottages): 1, Laheen; 2, Kilnaglare; 1, Drumbagh; 1, Kiltrasna; 1, Corraneary; 2, Clonoe Big; 1, Bracklagh; 1, Kildalton; 1, Lagan. (b) County Secretary, Courthouse, Cavan. (c) 5gns. (e) March 15.

GILLINGHAM B.C. (a) Alterations and additions, Technical School, Gardiner Street. (b) Borough Engineer, Municipal Buildings. (c) 5gns. (d) March 16. (e) May 18. See page 38.

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GUILDFORD B.C. (a) 57 houses, Park Barn; 3 blocks of 8 flats, Bushy Hill. (b) Borough Engineer, Municipal Offices, High Street. (c) 2gns. (e) March 22.

HESTON AND ISLEWORTH B.C. (a) Extension of existing refreshment pavilion and erection of a new convenience, Lampton Park, Hounslow. (b) Borough Engineer, 88, Lampton Road, Hounslow. (c) 2gns. (d) March 12. (e) April 12.

HUDDERSFIELD B.C. (a) Erection of County Junior School, Crosland Moor. (b) Borough Architect, High Street Buildings. (c) 2gns. (e) March 25.

HUDDERSFIELD B.C. (a) 52 houses, Reinwood Estate; 16 houses, Standiforth Estate. (b) Borough Architect, High Street Buildings. (c) 2gns. (e) March 18.

ISLE OF ELY C.C. (a) 5 police houses, Newlands Avenue, March; 4 police houses, Weasenham Lane, Wisbech. (b) County Architect, County Hall, March. (c) 2gns. (d) March 9. (e) April 3.

KINGSTON - UPON - THAMES B.C. (a) 16 lock-up garages, Cumberland House, Kingston Hill. (b) Town Clerk, Guildhall. (c) 1gn. (d) March 10.

KINGSTON - UPON - THAMES B.C. (a) Construction of refuse loading bay. (b) Town Clerk, Guildhall. (c) 2gns. (d) March 8.

LEEDS C.C. (a) Contract No. 579, Conversion of 612, Scott Hall Road into 2 flats. (b) City Architect, Priestley House, Quarry Hill, 9. (c) £1. (e) March 23.

LEICESTER C.C. (a) New secondary modern school, Downing Drive, off Spencefield Lane. (b) City Architect, 10, Loseby Lane. (c) £3. (e) March 12.

LONDON—ACTON B.C. (a) Conversion of 12, Roslin Road, into a self-contained flat and bookstore. (b) Borough Engineer, Town Hall, W.3. (e) March 26.

LONDON—EALING B.C. (a) An assembly hall at Grange Girls' School, W.5. (b) Borough Engineer, Town Hall, W.5. (c) £2. (e) March 12.

LONDON—WEMBLEY B.C. (a) Central garage and workshops, Alperton Lane. (b) Borough Treasurer, Town Hall. (c) 2gns. (e) March 19.

MALVERN U.C. (a) 15 houses, Assarts Road, Malvern Wells. (b) Surveyor and Water Engineer, Council House. (c) 2gns. (e) March 22.

MALVERN U.C. (a) Shop at Station Gardens, Avenue Road. (b) Surveyor and Water Engineer, Council House. (c) 2gns. (e) March 22.

MANCHESTER C.C. (a) Construction of dwellings in following contracts at Langley Estate, Middleton, near Manchester: Contract 205, 247 houses; Contract 206, 147 houses; Contract 207, 42 flats. (b) Director of Housing, Town Hall 2. (c) 3gns payable to Council. (e) March 22.

N. IRELAND—DUBLIN C.C. (a) 4 blocks of flats, Newfoundland Street. (b) City Treasurer, Lord Edward Street. (c) 15gns. (e) March 19.

READING B.C. (a) Erection of a photographic studio over an existing building at the police station, Valpy Street. (b) Borough Architect, Town Hall. (e) March 24.

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SALE B.C. (a) 42 dwellings, Oaklea Farm Estate. (b) Borough Engineer, Town Hall. (c) 2gns. (e) March 17.

SCOTLAND—BARRHEAD B.C. (a) All trades in erection of 2- and 3-storey flats comprising 20 houses, Graham Street. (b) Messrs. William Baillie and Son, 4, West Regent Street, Glasgow, C.2.

SCOTLAND—EAST KILBRIDE DEVELOPMENT CORPORATION. (a) Public house, Murray Neighbourhood Centre. (b) General Manager, East Kilbride Development Corporation, Torrance House, East Kilbride.

SCOTLAND—WIGTOWN C.C. (a) 2 dwellings about 4½ miles north-west of New Luce Village. (b) Messrs. Crouch and Hogg, 18, Woodside Crescent, Glasgow, C.3. (c) 2gns. (e) March 23.

SHEFFIELD C.C. (a) 176 dwellings, Greenhill Estate, Scheme 8. (b) City Architect, Town Hall, 1. (c) £2. (e) March 15.

SHERBORNE U.C. (a) 9 flats with site works, etc. (b) Messrs. Petter, Warren and Roydon Cooper, The Old Oxford Inn, West Hendeford, Yeovil. £5. (d) March 12. (e) April 9.

STOURBRIDGE B.C. (a) 146 dwellings, Pedmore Fields Estate; pair of shops, Wollaston Farm Estate. (b) Borough Engineer, Council House. (c) 3gns. March 19.

SWANSEA B.C. (a) 3-storey laboratory in Swansea. (b) Humphrey H. Goldsmith, 18, Gay Street, Bath. (d) March 12.

WEST RIDING C.C. (a) Adaptations to existing outbuildings to provide additional accommodation at Harewood Bridge House Residential Special School. (b) County Architect, "Bishopsgarth," Westfield Road, Wakefield. (c) 1gn. (e) March 22.

WEST RIDING C.C. (a) Adaptation of nurses home, Farnley Lane, Otley, into flats. (b) County Architect, "Bishopsgarth," Westfield Road, Wakefield. (e) March 15.

WILTSHIRE C.C. (a) Secondary modern school at Bemerton Heath, Salisbury. (b) County Architect, County Hall, Trowbridge. (d) March 10.

WOLVERTON U.C. (a) 18 houses, etc., Stacey Hill Housing Estate. (b) Engineer and Surveyor, Council Offices, Market Square, Stony Stratford, Wolverton. (c) 2gns. (e) March 16.

PLACED

Notes on contracts placed state locality and authority in bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. * denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

MIDDLESBROUGH B.C. (1) 208 houses. (2) Park End. (3) Geo. Wimpey and Co., Ltd., Orchard House, Newcastle-on-Tyne. (4) £274,912.

LONDON COUNTY COUNCIL. (1) Five 11-storey blocks of flats. (2) Boreham Wood. (3) Wates, Ltd., 1258, London Road, Norbury, S.W.16. (4) £630,316.

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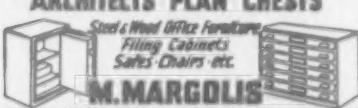


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HAM, SURREY. (1) 84 traditional flats, for Bargood Estates, Ltd. (2) Ham Farm. (3) Wates, Ltd., 1258 London Road, Norbury, S.W.16. (4) £169,340.

ALDRIDGE (STAFFS) U.D.C. (1) 118 houses. (2) Pheasey Estate. (3) Henry Boot and Sons, Ltd., Banner Cross Hall, Eccleshall Road South, Sheffield. (4) £162,457.

MONTGOMERY C.C. (1) Technical school. (2) Newtown. (3) Jones and Leach, Ltd., Llanidloes Road, Newtown, Mont. (4) £178,481.

HAMPSTEAD B.C. (1) 54 flats, etc., and 8 houses. (2) Broadhurst Gardens site. (3) William Moss and Sons, Ltd., North Circular Road, N.W.2. (4) £116,713.

KINGSTON-ON-THAMES B.C. (1) 105 flats. (2) Chessington Hall Estate. (3) Token Construction Co., Ltd., 22, Park Street, London, W.1. (4) £182,311.

PLYMOUTH CITY COUNCIL. (1) Secondary school. (2) Whiteleigh. (3) Dudley Coles, Ltd., Hartley, Plymouth. (4) £95,587.

BERMONDSEY B.C. (1) 70 flats, Dunton Road. (2) Direct Labour Organization. (4) £139,219.

TONBRIDGE U.D.C. (1) 100 houses. (3) Geo. Wimpey and Co., Ltd., Hammersmith Grove, London, W.6. (4) £136,853.

LONDON COUNTY COUNCIL. (1) Primary school. (2) Highbury Quadrant. (3) Tersons, Ltd., Dollis Park, Finchley, N.3. (4) £113,886.

SMETHWICK B.C. (1) Dwellings. (2) Redevelopment area No. 1. (3) Geo. Wimpey and Co., Ltd., Hammersmith, W.6. (4) £360,992.

KENDAL B.C. (1) 54 houses. (2) Hall Garth Estate. (3) W. H. Ainsworth and Co., 14, Mints Feet Street, Kendal, Westmorland. (4) £82,629.

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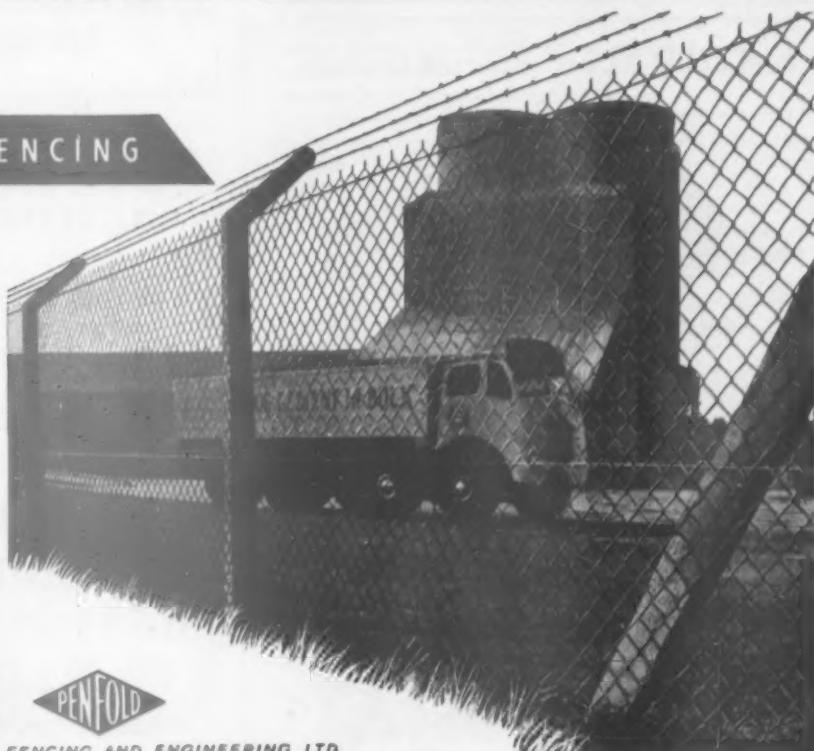
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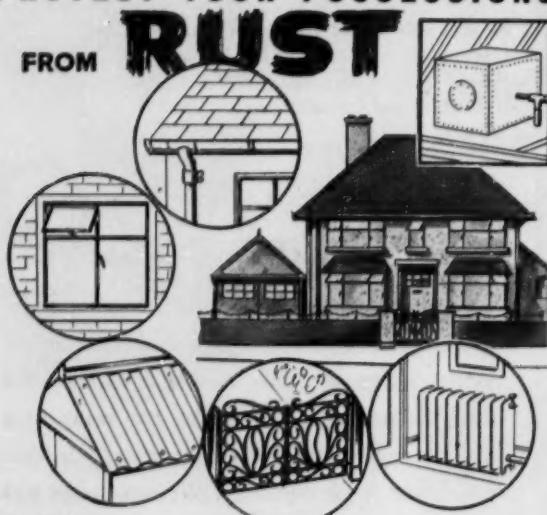
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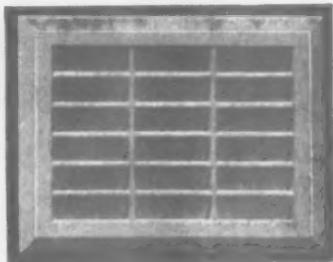
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- (d) JUNIOR ARCHITECTURAL ASSISTANT (Temp.), Grade Misc. I/II/III. £320-£460.

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Intending applicants should apply for forms, stating for which post they wish to apply, to the County Architect, County Hall, March, to whom they must be returned not later than Tuesday, 16th March, 1954.

R. F. G. THURLOW,
Clerk of the County Council.
[7701]

LEYLAND URBAN DISTRICT COUNCIL.

ENGINEER & SURVEYOR'S DEPARTMENT.

DEPUTY ARCHITECT.

APPLICATIONS are invited for the appointment of DEPUTY ARCHITECT in the Engineer and Surveyor's Department. The salary will be within the Grades A.P.T. VI/VII, according to qualifications and experience. Applicants must hold appropriate qualifications and have had considerable experience in housing and general Architectural work. Housing accommodation will be made available if necessary.

Applications, stating full name, age, qualifications, training, past and present employment and experience, and the grade applied for, together with the names of two persons to whom reference can be made, should be sent immediately, in an envelope suitably endorsed. (Closing date March 15th, 1954, not later than 10 a.m.).

Candidates must disclose, in writing, if they are related to any member or senior officer of the Council. Canvassing, either directly or indirectly will disqualify.

T. K. CLAYTON,
Clerk of the Council.
Council Offices,
LEYLAND, Lancs.
[7710]

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APPOINTMENTS—contd.

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APPLICATIONS are invited for the appointment of ARCHITECTURAL ASSISTANT Grade II on the staff of the Divisional Chief Architect at Denby Main, Near Doncaster. Salary, within the range of £440 x £20 to £540, will depend on qualifications and experience. The above appointment is for the established staff and is subject to the Board's Principal Superannuation Scheme.

Applicants should have passed the intermediate examination of the Royal Institute of British Architects, have had not less than 3 years' subsequent practical experience, should be able to prepare sketch plans and working drawings under supervision, and have a sound knowledge of building construction.

The work for this post will consist chiefly of pit-head baths, canteens, medical centres, offices and laboratories, etc.

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BOROUGH ENGINEER'S DEPARTMENT.

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Persons desirous of tendering are requested to submit applications for tendering documents to the Borough Engineer, Municipal Buildings, Gillingham, together with a cheque for five guineas (£5 5s) as a deposit made payable to the Gillingham Corporation, not later than 16th March, 1954. This sum will be refunded on receipt of a bond tendered not subsequently withdrawn or on the return of all the documents issued.

It is anticipated that copies of the Bills of Quantities will be available for dispatch on the 27th April, 1954, and the drawings and Conditions of Contract will also be available for inspection on and after this date at the following offices:—

1. Borough Engineer's Department,
Municipal Buildings, Gillingham.
2. Messrs. Cable & Pite, F.R.I.B.A.,
Chartered Architect,
South Park, Sevenoaks.

Tenders must be delivered to the undersigned in the envelope provided, endorsed "Tenders for Alterations and Additions, Technical School, Gardiner Street," and must arrive not later than first post on the 18th May, 1954.

The Council do not bind themselves to accept the lowest or any tender.

FRANK HILL,
Municipal Buildings, GILLINGHAM, Kent.
Town Clerk.
22/2/54. [7711]

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[7705]

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A NEAT and accurate Architectural Assistant required for general practice in London office. Sound knowledge of construction and design essential.—Write, giving details of experience and salary required, to Box 3830. [7717]

ARCHITECTURAL Assistant required for general practice. Office experience essential.—Apply, stating experience and salary required, to Edwin H. Earp & Badger, L./A.R.I.B.A., Scholars Lane, Stratford-on-Avon. [7721]

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SAMUEL MORRISON & PARTNERS, 39, Full St., Derby, require Assistants for contemporary work: housing, schools, factories and industrial design. Applicants should be of Intermediate standard, or Final standard with minimum of one year's experience. [7714]

ARCHITECTURAL assistant up to or Inter R.I.B.A. standard required for architects with general country practice.—write stating age, training, experience and salary required to Forsyth Lawson, Cunningham & Partners, 30, Horse Fair, Banbury, Oxon. [7707]

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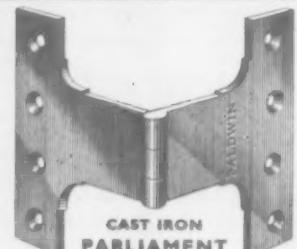
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